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International Tobacco Control  
Policy Evaluation Project

# **ITC 6 European Country Survey**

## **Wave 1 Technical Report**

**February 1, 2017**



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## **Preface**

This technical report documents the first wave of the International Tobacco Control Policy Evaluation Survey carried out in Germany, Greece, Hungary, Poland, Romania, and Spain. This project is known as the ITC 6 European Country Project (6E) under the larger project called European Regulatory Science on Tobacco: Policy Implementation to Reduce Lung Disease (EUREST-PLUS). Wave 1 was conducted from June to September 2016.

This report also presents the weight calculations for the Wave 1 respondents.

# 1 Introduction

## 1.1 Background

The International Tobacco Control (ITC) Project is a multi-country prospective cohort study designed to measure the psychosocial and behavioural impact of key policies of the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC).

Germany, Greece, Hungary, Poland, Romania, and Spain make up the six countries of the ITC 6 European Country Project (6E). Hungary was the first state to ratify the FCTC in April 2004, followed by Germany in December of that year. Spain ratified the FCTC in January 2005. Greece was next to ratify the FCTC in January 2006, followed by the remaining states (Poland and Romania) in September 2006. In addition to the FCTC, each country is a party of the European Union, and as such must also comply with the European Commission's Tobacco Products Directive (TPD), the latest of which was made law in 2014 with a compliance date of May 20, 2016. Previous to the TPD of 2014 was the TPD of 2001, under which all six European States had to meet minimum standards of tobacco labelling and packaging restrictions, as well as regulations regarding cross-border trading and product ingredients. The latest TPD (2014) sets regulations on the following areas:

- (i) Ingredients and emissions, including maximum emission levels on tar, nicotine, and CO<sub>2</sub>, as well as restrictions on additives such as flavours and stimulants
- (ii) Labelling and packaging restrictions, setting minimum dimensions for packages of tobacco as minimum standards on graphic (combined) tobacco health warning labels
- (iii) Traceability and security measures to combat illegal cigarette smuggling and counterfeit products
- (iv) Cross-border purchase regulations
- (v) E-cigarette product regulations including pan-European restrictions on the amount of nicotine allowed within e-cigarettes/e-liquid, product design elements such as reservoir sizes, and more.

To evaluate the effect of the FCTC and the TPD (2014), the ITC Project is conducting the ITC 6E Project as part of the European Regulatory Science on Tobacco: Policy Implementation to Reduce Lung Disease (EUREST PLUS) Project. The main objective of EUREST-PLUS Project is to monitor and evaluate the impact of the implementing acts of the TPD and assess these within the context of FCTC ratification at a European level.

The ITC 6E Project will run two prospective cohort surveys which will parallel surveys of adult smokers in 22 other ITC countries—(Canada, United States, United Kingdom, Australia, Ireland, Thailand, Malaysia, China, South Korea, New Zealand, Mexico, Uruguay, France, The Netherlands, Brazil, Mauritius, Bangladesh, Bhutan, India, Kenya, Zambia, and Abu Dhabi – United Arab Emirates).

The ITC 6 European Country Wave 1 Survey was carried out from June to September 2016.

## 1.2 Main Objectives

Representing three of the seven work packages (WP) of the EUREST-PLUS Project, the ITC 6 European Country Project is key to meeting the overall EUREST-PLUS objectives. Those objectives are:

- a) **To evaluate** the psychosocial and behavioral impact of TPD implementation and FCTC implementation, through the creation of a longitudinal cohort of adult smokers in 6 EU MS (Germany, Greece, Hungary, Poland, Romania, and Spain; total n=6000) in a pre- vs. post-TPD study design (Work Package, or WP, 2 and 3). Moreover, these evaluation studies of the impact of the TPD and FCTC will be conducted with respect to vulnerable populations, including low-income/socio-economic status (SES) groups and those smokers with respiratory co-morbidities (and/or those with pre-morbid symptomatology). Another important topic that will be addressed in the scientific studies of the ITC 6E cohorts will be a focus on e-cigarettes, addressing basic issues of transition rates from cigarettes to e-cigarettes or dual use, rates of reversion back to cigarettes and rates of quitting all nicotine products. Studies that examine e-cigarettes will be linked to additional analysis, focussing on product testing of various design features of e-cigarettes systematically procured in those same 6 countries where the ITC 6 European Country Surveys will be conducted.
- b) **To assess** support for TPD implementation through secondary dataset analyses of the 2015 Special Eurobarometer on Tobacco Survey (SETS), a cross-sectional survey performed among 27,000 adults in all 28 EU MS, before the TPD is implemented, and to monitor progress in FCTC implementation in the EU over the past years through trend analyses on the merged datasets of the 2009, 2012 and 2015 SETS datasets (n=80,000), with a special focus on vulnerable populations (youth, minorities, unemployed, etc.) (WP5)
- c) **To document** changes in e-cigarette product parameters (technical design, labelling/ packaging and chemical composition) following TPD implementation of Article 20 of the TPD. (WP6)
- d) **To enhance** innovative joint research collaborations on chronic, non-communicable diseases (NCDs) in low- and middle-income countries (LMICs) and in vulnerable populations in high-income countries (HICs), a key priority of the Global Alliance for Chronic Disease (GACD) outlined in the call. We will specifically address these cross-country analyses through the pooling and comparisons across both other EU countries of the ITC Project (6E, UK, France, Netherlands), and other non-EU countries from LMICs and HICs from the global ITC Project (including key countries of comparison such as Australia, Canada, New Zealand, United States, China). (WP4)

## 1 INTRODUCTION

The objectives of the ITC 6 European Country Survey are:

- a. **To examine the prevalence and patterns of tobacco use in all six European States.** The ITC 6 European Country Survey provides multidimensional estimates of prevalence and patterns of tobacco use among the populations of all six participating states. It describes the consumption patterns and quitting behaviour within each country's population, as well as each population's knowledge, beliefs, and attitudes about tobacco use. As well, the survey investigates each country's growth or absence of awareness and use of electronic cigarettes (e-cigarettes).
- b. **To examine the impact of the Tobacco Products Directive (2014) in all 6 countries throughout the course of the study period.** The ITC 6E Survey evaluates the impact of the TPD in the following areas:
  - Health warning labels and package descriptors
  - Tobacco ingredients and additives
  - Cross-border sales of tobacco products
  - E-cigarette use and behaviour

The survey also evaluates the impact of the FCTC in the following areas:

- Smoke-free legislation
- Pricing and taxation of tobacco products, as well as the prevalence of compensatory behaviours that may offset the impact of taxation (e.g., cheaper purchasing options, smuggling)
- Education and support for cessation
- Tobacco advertising and promotion

This report provides a detailed picture of the current tobacco control policy landscape in all six European countries, including cigarette smokers and e-cigarette users' beliefs, attitudes, and behaviours, following the passage of the TPD in 2014.

- c. **To compare smoking behaviour and the impact of policies between the 6 European countries and other ITC countries.** The ITC Project aims to provide an evidence base to guide policies enacted under the FCTC, and to systematically evaluate the effectiveness of these legislative efforts. All ITC Surveys are developed using the same conceptual framework and methods, and the survey questions are designed to be identical or functionally equivalent in order to allow strong comparisons across countries. The evaluation studies conducted from the ITC Surveys take advantage of natural environments created when an ITC country implements a policy: changes in policy-relevant variables in that country from pre- to post-policy survey waves are compared to those in other ITC countries where that policy has not changed. This research design provides high levels of internal validity, allowing more confident judgments regarding the possible causal impact of the policy.

- d. **To suggest changes to current European tobacco policies.** Recommendations to strengthen the current tobacco policies are made based on existing and derived survey information. The aim is to optimise the effects of tobacco control policies with regard to situational and individual difference moderators: (a) demographic variables; (b) personality variables (e.g. time perspective); (c) environmental context (e.g. number of peers/family members who smoke); and (d) the individual's smoking history (e.g. past quit attempts, smoking intensity and quitting smoking).

### 1.3 Survey Design

The ITC 6E Survey is a longitudinal cohort study. In other words, the respondents who participate in this survey will be re-contacted in the future to participate in follow-up surveys. The respondents were recruited through a face-to-face multi-stage stratified random sample of the general population aged 18 or more.

### 1.4 The Research Team

The ITC 6 European Country Survey is conducted by researchers throughout Europe from both the six participating countries as well as other institution partners within Europe and abroad.

Investigators	Organization	Country
1. Constantine Vardavas (coordinator)	European Network on Smoking and Tobacco Prevention (ENSP)	Belgium
2. Ann McNeill	Kings College London (KCL)	United Kingdom
3. Ute Mons	German Cancer Research Center (DKFZ)	Germany
4. Marc Willemsen	University of Maastricht (UniMaas)	Netherlands
5. Yiannis Tountas	University of Athens (UoA)	Greece
6. Antigona Trofor	Aer Pur Romania (APR)	Romania
7. Brian Ward	European Respiratory Society (ERS)	Switzerland
8. Geoffrey Fong	University of Waterloo (UW)	Canada
9. Esteve Fernandez	Institut Català d'Oncologia (ICO)	Spain
10. Tibor Demjén	Smoking or Health Hungarian Foundation (SHFF)	Hungary
11. Witold Zatonski	Health Promotion Foundation	Poland
12. Aristidis Tsatsakis	University of Crete (UoC)	Greece
13. Nicolas Bécuwe	Kantar Public Brussels (KP)	Belgium

## 1 INTRODUCTION

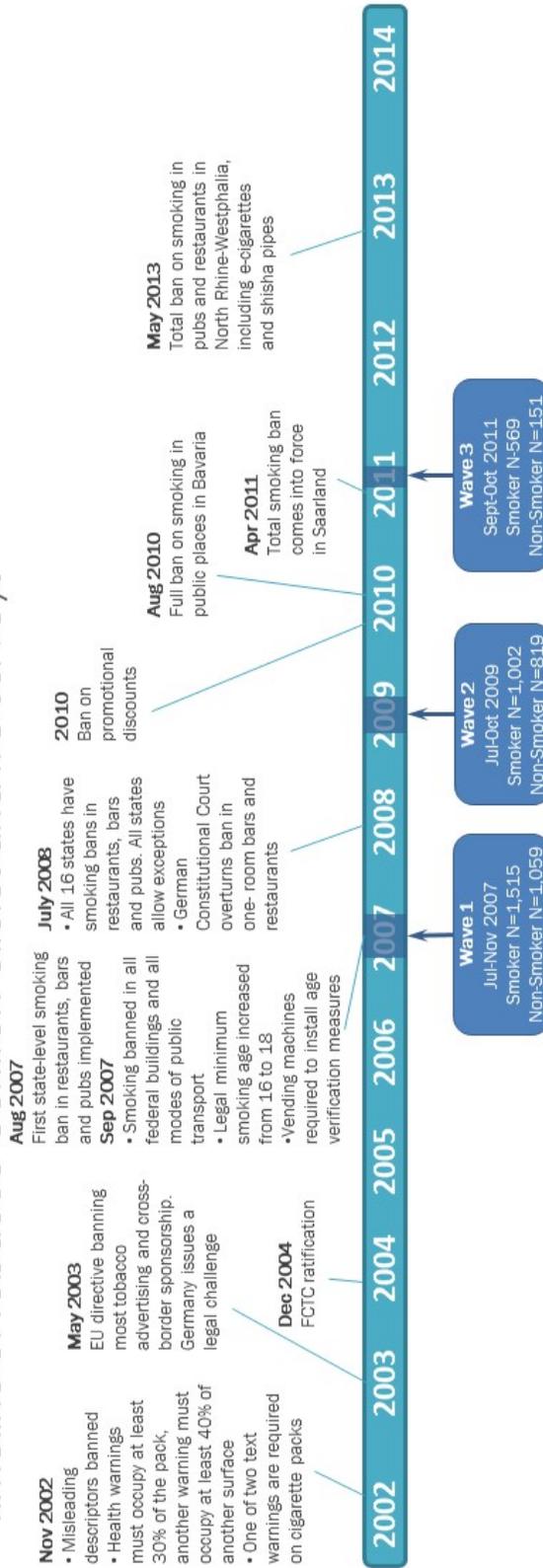
### 1.5 Country Timelines

Below are the timelines in conjunction with the tobacco control policies and ITC wave for each of the 6 countries.



# GERMANY

## Timeline of Tobacco Control Policies and ITC Surveys



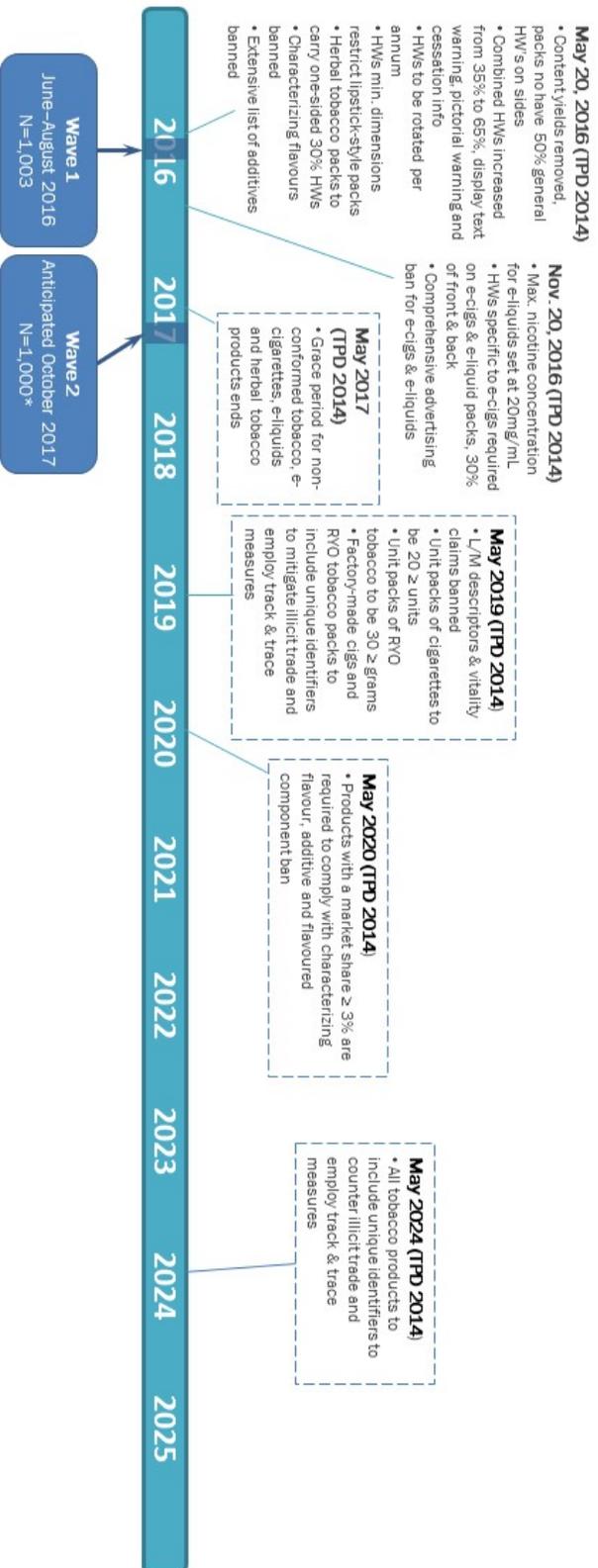
Survey Mode: Telephone (CATI)  
Respondent Types: Smoker and Non-Smoker

Updated Aug 2016

# GERMANY



## Timeline of Tobacco Control Policies and ITC Surveys

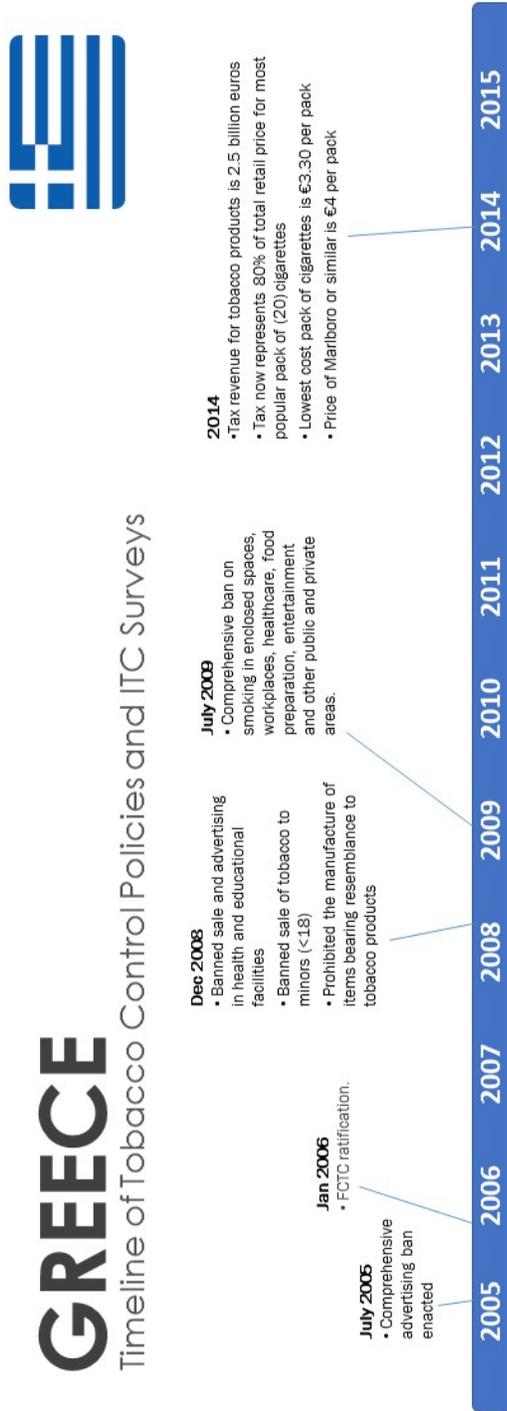


Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

\* Target sample size



Updated November 2016



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

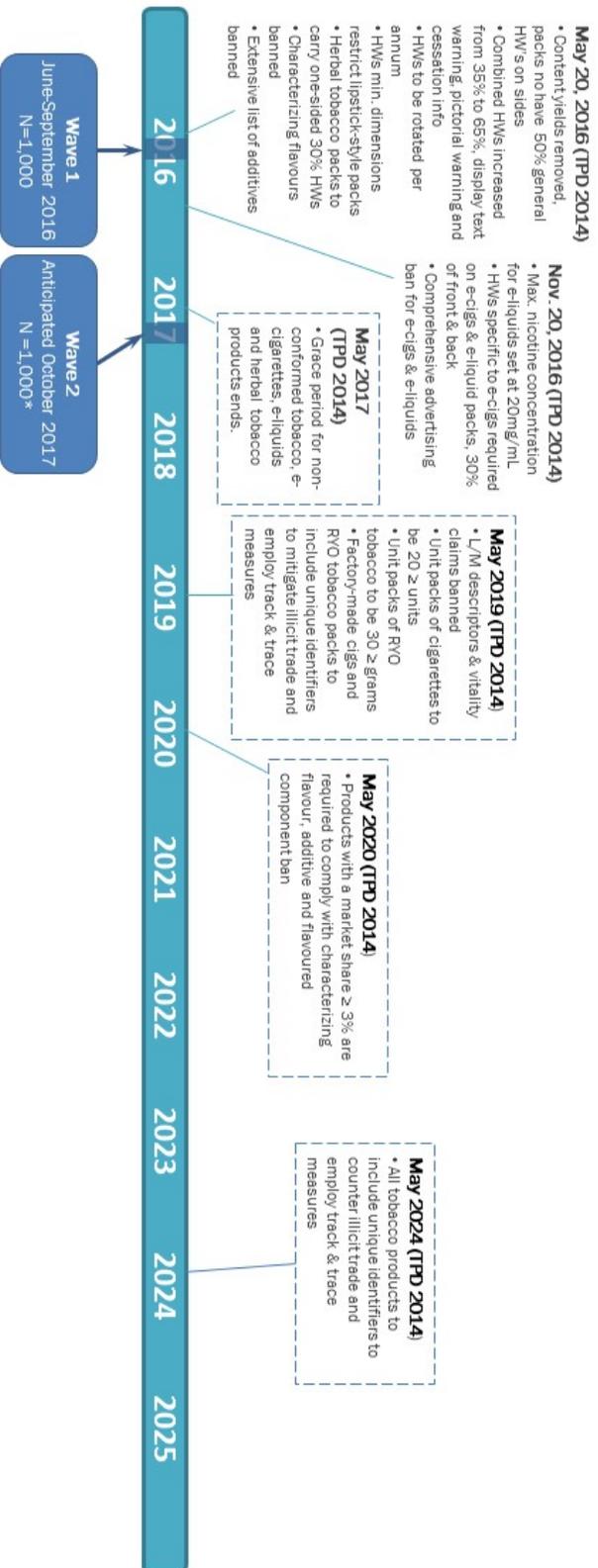
Updated July 2016

# GREECE

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## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

\* Target sample size

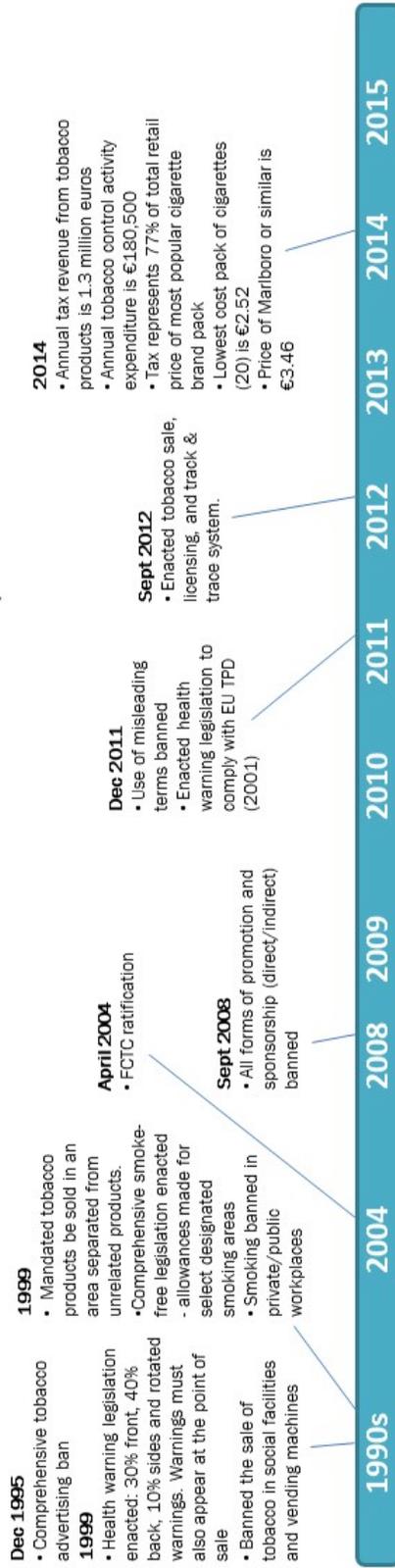


Updated November 2016



# HUNGARY

## Timeline of Tobacco Control Policies and ITC Surveys



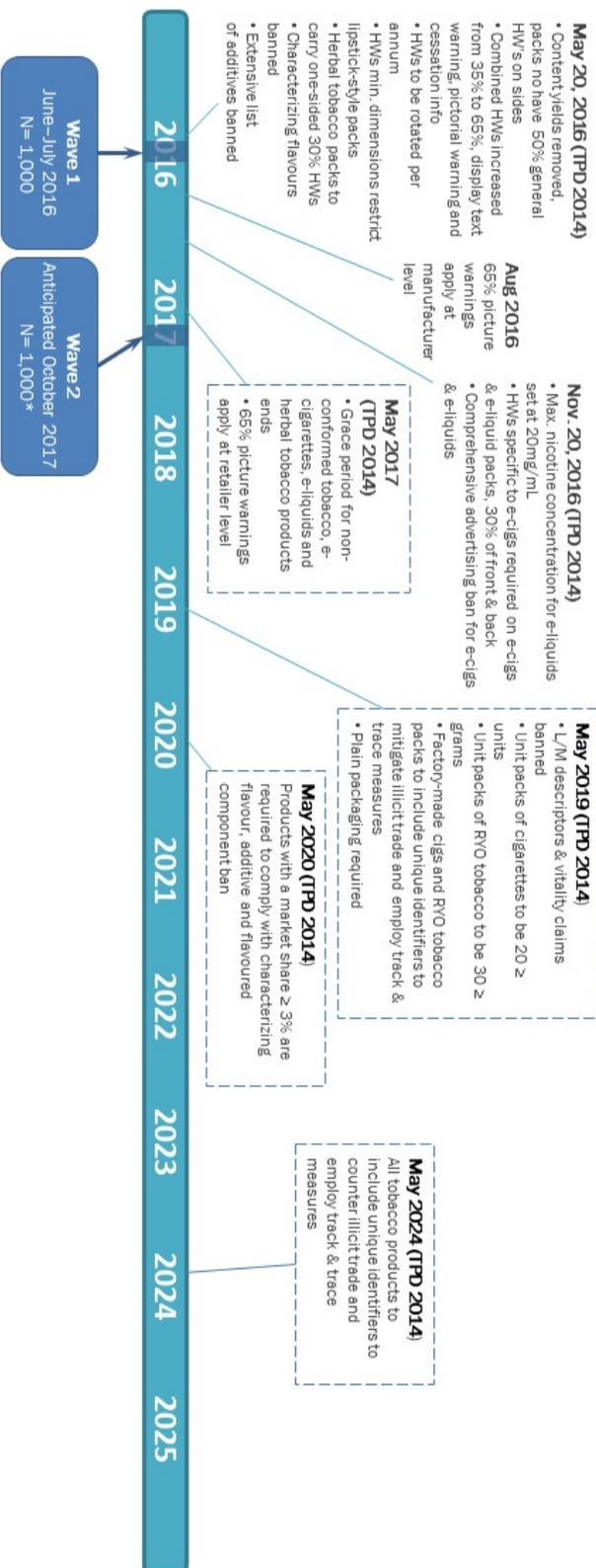
Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

Updated July 2016



# HUNGARY

## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

\* Target sample size



Updated November 2016



# POLAND

## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

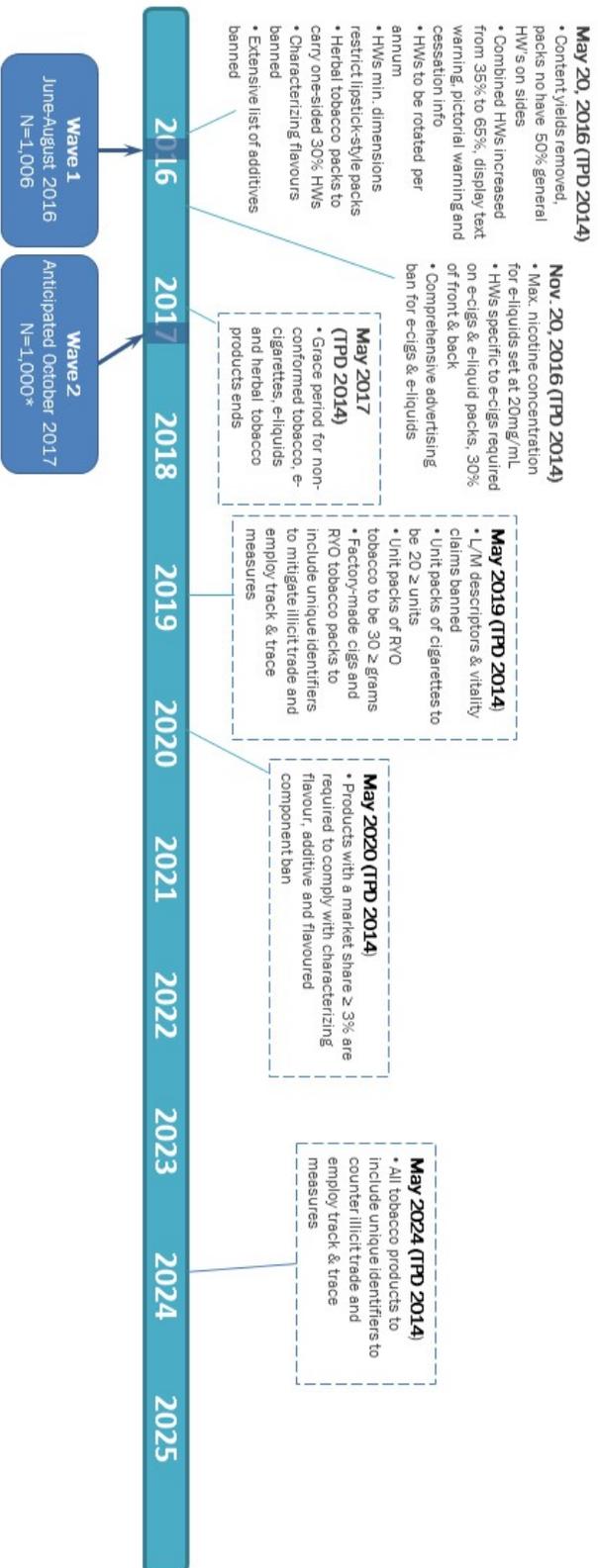
Updated July 2016

# POLAND

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## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

\* Target sample size

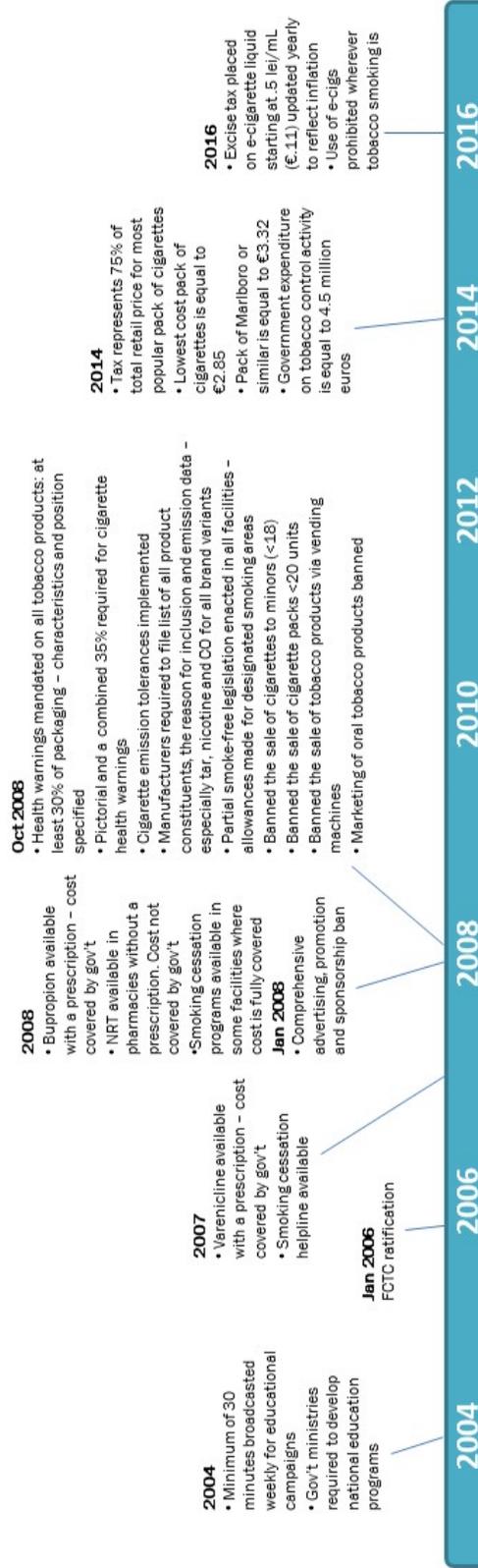


Updated January 2017



# ROMANIA

## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

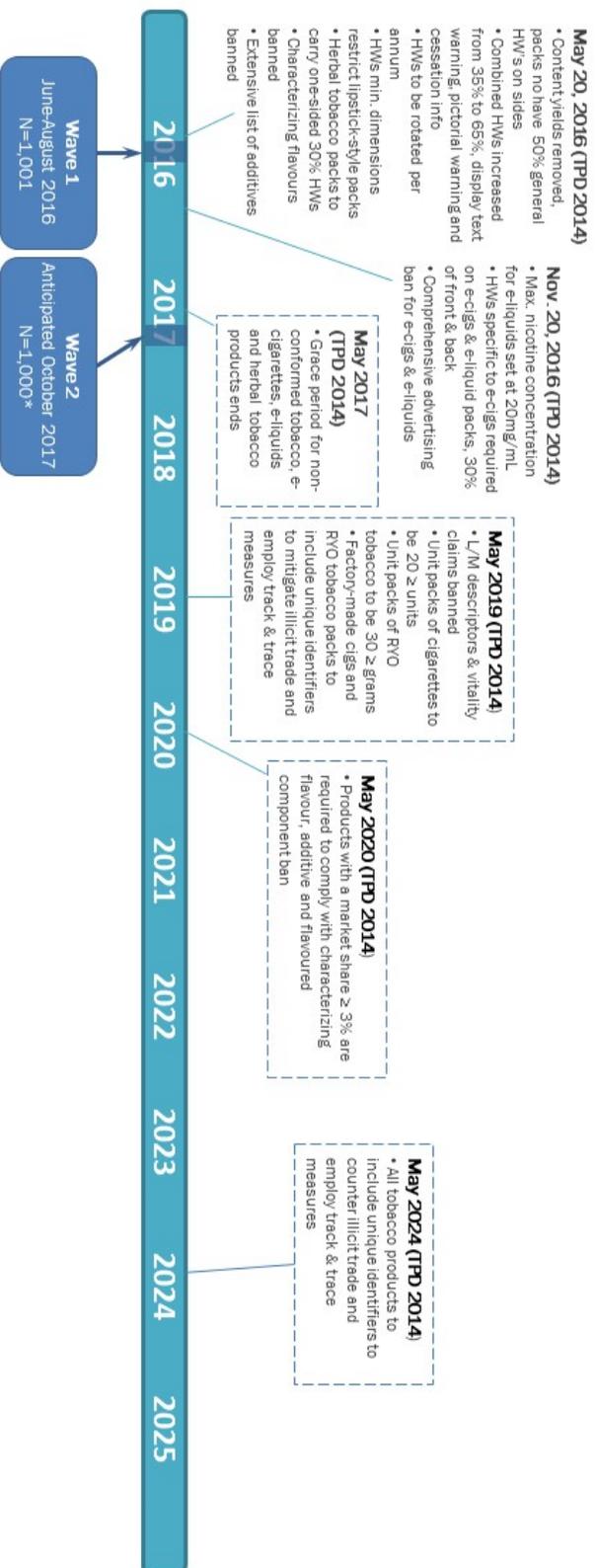
Updated July 2016

# ROMANIA

eures<sup>t</sup>plus



## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

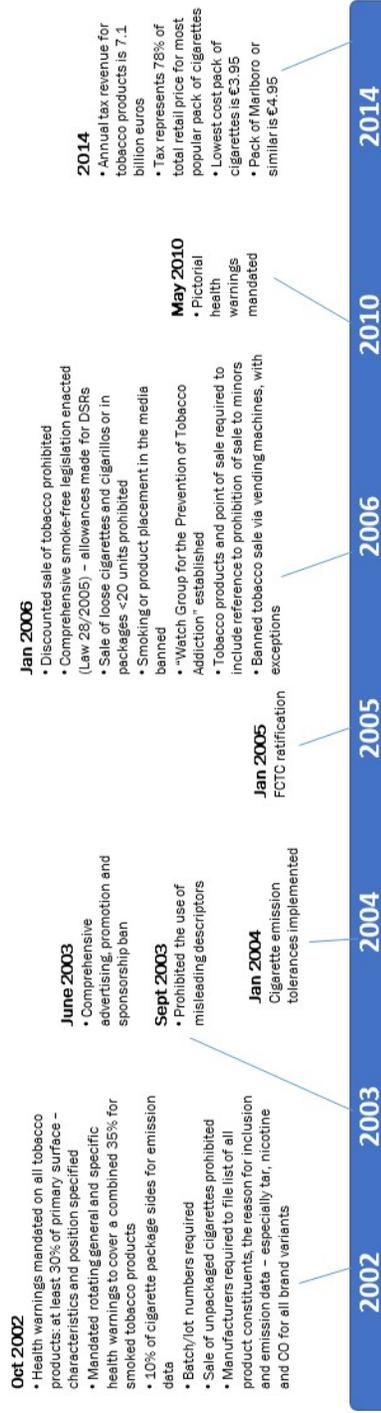
\* Target sample size



Updated January 2017

# SPAIN

## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
 Respondent Types: Smoker and/or Dual User (Tobacco & E-Cig)

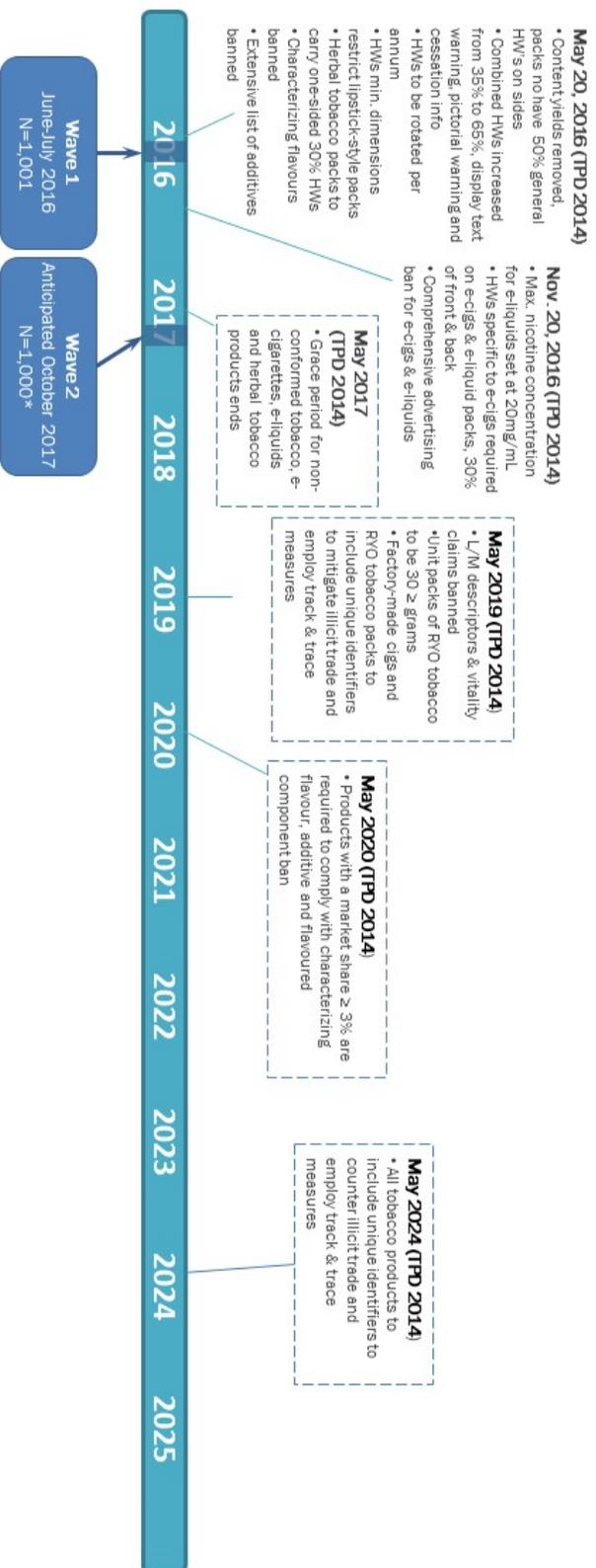
\*Target sample size

Updated July 2016

# SPAIN



## Timeline of Tobacco Control Policies and ITC Surveys



Survey Mode: Personal (CAPI)  
Respondent Types: Smoker

\* Target sample size



Updated November 2016

## 2 Survey Process, Protocols and Fieldwork

### 2.1 Survey Process

The ITC 6 European Country Wave 1 fieldwork was managed and coordinated by Kantar Public Brussels. The fieldwork was conducted in the 6 European countries by the following agencies: Foerster and Thelen (Germany), Metron Analysis (Greece), Kantar TNS Hoffman (Hungary), Kantar TNS Polska (Poland), Curs (Romania) and Kantar TNS Spain (Spain).

The ITC 6 European Country Wave 1 Survey fieldwork consisted of 7 main steps (see Appendix B). The interviewers:

1. Approached a household and introduced themselves;
2. Administered the Household Screener Survey to the Most Knowledgeable Individual (MKI);
3. Had each selected respondent read the information letter and obtained the respondent's consent;
4. Administered a survey screener to each selected respondent;
5. Completed the respondents' individual questionnaires;
6. Completed the individual outcome codes in the HRF/HEF Form B;
7. Thanked the respondents and provided a token of appreciation to the household. For each household of respondents, the respondent was presented with a token of appreciation of varying value dependent on the country as remuneration for their time (See Section 2.5 for remuneration amounts).

### 2.2 Replenishment Participant Selection and Consent

**Identifying eligible members.** Adult cigarette smokers formed the only category of eligible respondents in a household.

**Selection of household members.** Household members aged 18 years and older were sampled. From households with cigarette smokers, up to one male and one female cigarette smoker were selected using the last birthday method of selection for each.

**Information and consent.** Once a respondent was selected, the information letter was provided and consent was administered to the respondent (See Appendix B).

## 2 SURVEY PROCESS, PROTOCOLS AND FIELDWORK

Table 1. Percentage of respondents who consented to take part in the second wave (Autumn 2017)

Country	National Agency	Consenting Respondents (%)
Germany	Foerster and Thelen	93%
Greece	Metron Analysis	69%
Hungary	Kantar TNS (TNS Hoffmann)	60%
Poland	Kantar TNS (TNS Polska)	70%
Romania	Curs	95%
Spain	Kantar TNS Spain	97%

### 2.3 Household Screener Survey

In each selected household that contained eligible adult smokers, the identified key Informant or Most Knowledgeable Individual was given a brief Household Screener, from which respondents were selected. The purpose of the household screener was to identify residents of the household who fit the screening criteria of the project: (1) 18 years or older; (2) smoke at least monthly.

If the Key Informant/Most Knowledgeable Individual was available at the first household visit, the Household Screener was administered, and then the individual household members were selected and interviewed if possible. If not, an appointment was made to come back to complete the Household Screener.

### 2.4 Main Questionnaire

#### 2.4.1 Screeners

After completing the Household Screener and before administering the appropriate individual questionnaires, each selected respondent was given an individual survey screener. This screener confirms the information supplied by the Most Knowledgeable Individual at the individual level.

### 2.4.2 Content of Survey

A summary of the survey questions is given below:

- Demographic questions (e.g., age, gender, education, income, socio-economic status);
- Questions relevant to the policies of interest. These include measures of awareness (e.g., of warning labels, product ingredients, cessation assistance, advertising and promotion, prices, and e-cigarettes) and, where relevant, of more extensive cognitive processing (e.g., thinking about health warnings, relative harm between alternative products);
- Moderator variables (e.g., time perspective, stress, co-morbidities);
- Well-established questions assessing smoking behaviour;
- Other important psychosocial predictors of smoking behaviour (psychosocial mediating variables, e.g., normative beliefs, self-efficacy, intentions to quit).

### 2.4.3 Language of Survey

The survey questionnaire was translated into the national languages of all six participating countries: German; Greek; Hungarian; Polish; Romanian; and Spanish.

### 2.4.4 Length of the Interview

The survey was conducted by a face-to-face interview with the respondent. It took about 35 minutes to complete the survey questionnaire.

## 2.5 Remuneration

Interviewees were given the token of appreciation upon completion of the interview. Receipt of the token of appreciation was recorded by the interviewer as part of the post-interview section of the questionnaire. The interviewer had to confirm in the script that the respondent had received his or her voucher. Remuneration amounts in each country are listed in Table 2.

Table 2. Remuneration amounts in each country

Country	National Agency	Incentive (€)
Germany	Foerster and Thelen	10
Greece	Metron Analysis	5
Hungary	Kantar TNS (TNS Hoffmann)	10
Poland	Kantar TNS (TNS Polska)	10
Romania	Curs	7
Spain	Kantar TNS Spain	3

## 2.6 Progress Report

### 2.6.1 Survey Translation

All the surveys for Wave 1 fieldwork were finalized by the end of May 2016. Translation of the survey documents into the six national languages also took place over the course of the month of May. Translation was handled in house by the survey firm Kantar Public Brussels. The translation process used was the following: first the questionnaire was translated by an independent translator. Then this version was revised twice: first by an independent proof-reader and then by the national agency project manager. When the translation was finalised it was sent for approval to the national members of the Consortium who sent their final comments and agreements.

### 2.6.2 Field Work Preparation and Interviewer Training

The survey firm Kantar Public Brussels handled all fieldwork preparation within the six countries over the month of June 2016. Representatives from Kantar Public Brussels trained local country teams to use the tablet-based CAPI survey, as well as ensuring fieldwork operators followed the proper procedures outlined in the protocol.

### 2.6.3 Survey Fieldwork

The fieldwork started on June 16, 2016 and continued until September 12, 2016. Due to the international nature of the project, each country had varying start and completion dates. Table 3 outlines the fieldwork dates within each country.

Table 3. ITC Europe fieldwork dates (2016).

Country	National Agency	Fieldwork Dates
Germany	Foerster and Thelen	June 15–August 30
Greece	Metron Analysis	June 16–September 12
Hungary	Kantar TNS (TNS Hoffmann)	June 22–July 20
Poland	Kantar TNS (TNS Polska)	June 25–August 11
Romania	Curs	June 25–August 8
Spain	Kantar TNS Spain	June 23–July 21

Fieldwork in Athens, Greece had to be suspended for one week during the month of August (August 12 – August 19) due to much of the population being away in mid-August, a common vacation period. Fieldwork was concluded on September 12, 2016.

In Romania, extra call backs were conducted between September 2 and September 12 to ask BQ49221 (Q76.9) that could not be asked during the face-to-face survey. 789 respondents out of 1003 were reached and asked this question.

The total number of respondents completing the survey in each country and the size of the field work teams are listed in Tables 4 and 5, respectively.

Table 4. Total respondents completing the ITC Europe Survey in each country

Country	National Agency	# Completes
Germany	Foerster and Thelen	1003
Greece	Metron Analysis	1000
Hungary	Kantar TNS (TNS Hoffmann)	1000
Poland	Kantar TNS (TNS Polska)	1006
Romania	Curs	1001
Spain	Kantar TNS Spain	1001

#### 2.6.4 Questionnaire Checking

The final version of the English questionnaire was checked by Kantar Public Brussels. Comments were sent to University of Waterloo and then the questionnaire was finalised. The master script of the questionnaire was then built. The script was checked by Kantar Public Brussels and sent for approval to the University of Waterloo.

Once the script was finalised in English, the national scripts were implemented and checked by national agencies before implementing the survey.

## 2 SURVEY PROCESS, PROTOCOLS AND FIELDWORK

Table 5. Size of the fieldwork team in each country

Country	National Agency	# Supervisors	# Interviewers
Germany	Foerster and Thelen	3	100
Greece	Metron Analysis	9	33
Hungary	Kantar TNS (TNS Hoffmann)	11	104
Poland	Kantar TNS (TNS Polska)	18	62
Romania	Curs	8	50
Spain	Kantar TNS Spain	4	24

### 2.6.5 Data Checking and Cleaning

Once data checking was completed by Kantar Public Brussels, the data files were transferred securely to the University of Waterloo using an encrypted email and password sent by separate message.

Once the data were successfully transferred, the University of Waterloo data analyst commenced data cleaning. The data analyst conducted duplicate entry comparisons of the data files, using the SAS statistical software and identified discrepancies between the two data files. A list of these discrepancies were sent to the Kantar Public Brussels data manager for verification and correction. The Kantar Public Brussels data manager sent the corrections to the University of Waterloo data analyst for verification.

After discrepancies had been identified and corrections sent by the Kantar Public Brussels data manager, the University of Waterloo data analyst conducted additional checks on the data to ensure that all skip patterns had been correctly followed and to ensure that the data did not contain invalid values. Respondent identifier codes were also checked thoroughly to ensure the data could be correctly linked within a survey wave and between waves over time. Any additional discrepancies that were identified were also sent back to the in-country data manager for verification. This back and forth communication between the University of Waterloo data analyst and the Kantar public Brussels data manager went on until the data were deemed clean by the University of Waterloo data analyst. Following data processing and cleaning, sampling weights were constructed for the dataset and the final, cleaned datasets were released to the country team, by posting them on the secure, internal ITC website.

### 2.6.6 Data Delivery

Wave 1 data were delivered to the Data Management Centre (DMC) at the University of Waterloo on October 4, 2016. A DMC data analyst processed the Wave 1 data which were released in January 2017 and have been available for further analysis.

## 3 Monitoring and Quality Control

### 3.1 Management of Fieldwork Teams

The project fieldwork team consisted of five levels of management, including:

- **Project Manager:** responsible for overseeing all aspects of the survey fieldwork (design of the survey, sampling design and central briefing of national project managers), as well as administrative duties and communicating with the ITC Six European Country team in Waterloo and the Project Consultants.
- **Fieldwork Manager:** responsible for managing the survey fieldwork in all 6 countries, setting up the central coordination of fieldwork (supply sample, load script), ensuring the daily communication with national project manager and applying quality control on a regular basis.
- **Project Manager (Fieldwork):** responsible for managing national fieldwork including checking national script, data quality control and providing weekly reporting on fieldwork progress.
- **Field Supervisors:** responsible for supervising the interviewers, contacting local authorities and monitoring the interviews.
- **Interviewers:** responsible for obtaining consent, interviewing respondents, and reporting to the field supervisor with any problems.

### 3.2 Survey Protocol

An English survey protocol outlining the process in which fieldwork was to be conducted was written to ensure a benchmark standard for fieldwork across each country. The survey firm, Kantar Public Brussels, relayed the information outlined in the survey protocol to the country teams developing a survey wave manual that was used for a central briefing

### 3.3 Monitoring and Quality Assurance

To ensure the accuracy and quality of the ITC Six European Country Survey, the survey fieldwork was monitored in several ways.

- **Centralised data management:** The fieldwork was centrally managed by Kantar Public Brussels. Data were centrally transmitted via NFIELD software and therefore Kantar Public Brussels were able to assess progress and access data on a regular basis.

### 3 MONITORING AND QUALITY CONTROL

- **Progress Reports:** The Project Manager was provided regular progress reports on completion rates and any problems or issues by the survey firm, Kantar Public Brussels. Those reports were then presented to the Data Management team on a weekly basis.
- **Field Supervision:** The Field Supervisor was in charge of supervising the interviewers, helping them when they had a question regarding the contact procedure, the methodology or the script and liaising with the national agency.
- **Identification Numbers:** Identification numbers would be generated automatically by the CAPI program. All interviews in the six countries were conducted on Tablets using the NFIELD software.
- **Quality control at local level:** 10% back checks on interviews conducted within a week of completion (national institutes). Checks on coding (at least 10% of answers recoded as part of overall quality back check). Comparison between raw samples and national universe (central team). Ensuring item response is 100% within each completed survey

#### 3.4 Handling Special Situations

**Private interviews.** Adult participants were interviewed alone whenever possible. If another person insisted on being present, the respondent needed to agree for the interview to proceed.

**Proxy interviews.** A proxy interview is an interview conducted with another knowledgeable member of the household on behalf of the selected respondent. Proxy interviews were *not allowed* in the ITC Six European Country Survey.

**Respondent not available.** If a respondent was unavailable, an appointment time (hard appointment) was rescheduled to interview that respondent.

**Substitution.** Only if a selected household was recorded to have the disposition “No one at home” or “Cannot answer” for all four visits over four different times, (weekday day-time, weekday nighttime, weekend day-time and weekend night-time) could the household be replaced by a substitute, selected by the Field Supervisor.

**Handling multiple respondents.** An interviewer could not interview two adults at the same time.

## 4 Sampling Design and Weight Construction

### 4.1 Sampling design

The ITC 6E Survey is a prospective longitudinal study, and its sampling design was chosen to yield nationally representative random samples of adult smokers residing in Germany, Greece, Hungary, Poland, Romania and Spain. Respondents were interviewed between June 18 and September 12, 2016. All interviews were conducted face-to-face by interviewers using tablets (CAPI).

To qualify for the study, respondents had to be 18 years old or more, smoke at least monthly, and have smoked more than 100 cigarettes in their lives. In each country, a probability sample of dwellings was approached. At each dwelling, an informant was identified and asked the number of male smokers of at least 18 years of age and the number of female smokers of at least 18 years of age. Where possible a male smoker and a female smoker were selected from each household, using the Next Birthday method (Binson & Catania (2000)). No substitution within a household was allowed, except when it was known that the selected respondent would be absent for the entire fieldwork period.

The probability sample of dwellings was chosen as follows in each country. The country was divided into major geographic regions, namely NUTS2 regions for all countries except Germany, where NUTS1 regions were used. (Excluded for Greece were the islands in the Ionian Sea, the northern Aegean Sea and the southern Aegean Sea; excluded for Spain were the Canaries, Ceuta and Melilla.) The geographic strata were the NUTS regions crossed with degree of urbanization (urban, intermediate, rural). The strata were conceptually considered to be a union of clusters, each the size of an enumeration area, with the objective of sampling 100 clusters per country, and obtaining 10 adult smokers in each cluster. Clusters were allocated to strata proportionally to 18+ population size, subject to requiring at least two clusters in each stratum, and selected at random within each stratum.

In each selected cluster, a random walk method was to be used to select dwellings. A starting point was to be chosen at random using GPS coordinates, and a random walk path pre-drawn on a tablet; the interviewers were to follow the path and approach every fifth address on the path, for household screening and potential selection of adult smokers for interview. If an address corresponded to multiple households, a single household was to be selected at random. For each chosen address, contact was attempted up to four times.

As indicated above, one randomly selected male smoker and one randomly selected female smoker were to be selected for interview from a household where possible. Screening of households was to continue until the required number of smokers from the cluster had been interviewed.

The ITC 6E Wave 1 sample has the following sample sizes. Appendix A provides a detailed breakdown of the sample size within each country by sampling region, degree of urbanization and sex-age group.

Table 6. Country sample sizes

Country	Sample Size
Germany	1003
Greece	1000
Hungary	1000
Poland	1006
Romania	1001
Spain	1001
Overall	6011

## 4.2 Weight construction

### 4.2.1 General comments about weight construction

As with most survey weights, the ITC 6E Wave 1 weights are constructed to correct and adjust for sample misrepresentation caused by unequal sampling probabilities, frame error (i.e., under-coverage and multiplicity), and non-response, as well as to improve precision of estimates through the use of auxiliary information (e.g., smoking prevalences). We briefly describe these key concepts of weight construction in this section, but refer the reader to Levy & Lemeshow (2008), chapter 16, for more detailed information.

Basic design weights are defined as the reciprocals of selection probabilities, and thus adjust for sample misrepresentation caused by unequal sampling probabilities. For example, a smoker residing alone has a probability of selection twice that of a smoker residing with another smoker of the same sex, and thus will typically have a smaller weight to compensate.

The sampling frame is effectively a set of starting points within selected areas of each stratum, and may fail to cover some addresses. This is referred to as frame under-coverage, and can result in non-coverage bias. To reduce non-coverage bias in the ITC 6E Survey, post-stratification adjustments have been performed on the sampling weights to ensure that, for each stratum/sex/age group, the totals of the sampling weights are approximately equal to assumed benchmarks; see step 3 in section 4.2.2. Note that these benchmark figures are also referred to as calibration or target figures, and thus the post-stratification adjustment is also referred to as weight calibration.

If non-respondents behave differently than respondents, then inference based solely on the sample of respondents will be biased unless adjustments are made. The greater the expected proportion of non-response, the greater this bias is likely to be. In the ITC 6E Survey, the post-stratification adjustments described in the above paragraph also adjust for non-response bias. It should be noted that if data are missing completely at random (MCAR, see

Little & Rubin (2002)) within each stratum/sex/age group, then non-response bias will be completely eliminated. Realistically, however, non-response bias is reduced but not eliminated by calibration in the ITC 6E Survey.

It is well known, from survey sampling theory, that in the vast majority of cases, the ratio estimator of a population total has much greater precision than the commonly used Horvitz-Thompson estimator. Heuristically, this is due to the fact that the ratio estimator utilizes auxiliary (i.e., additional) information in addition to the sampling weights, whereas the Horvitz-Thompson estimator does not. As mentioned above, benchmark figures have been used to calibrate the ITC 6E sampling weights in order to reduce biases from frame errors and non-response. A consequence of using this auxiliary information in weight computation is that the precision of most estimates is increased. The calibrating procedure yields so-called ratio weights, which enable all estimators to inherit the increased precision of the ratio estimator.

#### 4.2.2 Wave 1 weights

Within each country, computation of sampling weights for the smokers who completed the Wave 1 survey proceeded as follows.

Step 1: Each respondent  $i$  was assigned an initial weight  $w_i^{(1)}$ , which can be viewed as an adjustment for the probability of selection within a given household. Formally, the  $w_i^{(1)}$  weights are given by

$$w_i^{(1)} = \frac{\text{\#18+ smokers of same sex as } i \text{ in household}}{\text{\#18+ smokers interviewed of same sex as } i \text{ in household}},$$

Note that the denominator should be 1 by design; as well, #18+ smokers of same sex as  $i$  in household was capped at 4 to prevent large households from having undue influence on the weights.

Step 2: Traditionally in two stage designs, the primary sampling units (psus) correspond to fixed geographic areas, and are sampled with probability proportional to size. Then approximately the same number of dwelling addresses is chosen at random in each psu, giving approximately equal inclusion probabilities for households. Traditionally we compute the household inclusion probability within a stratum and psu more precisely, and take the reciprocal as the household weight, but it is not a very bad approximation to take all sample households within a stratum to have the same “raising factor”, and the inclusion probabilities of individuals within strata to be approximately proportional to their inclusion probabilities within households.

In the case of the random walk design, the probability of inclusion of a dwelling or household is the proportional to the number of random walks in which it would

#### 4 SAMPLING DESIGN AND WEIGHT CONSTRUCTION

be one of the sampled households. It cannot be computed from the information available, and thus we have taken the inclusion probabilities of households to be approximately equal within strata, and the inclusion probabilities of individuals within strata to be approximately proportional to their inclusion probabilities within households.

Step 3: A post-stratification adjustment was then performed to calibrate the  $w_i^{(1)}$  weights to smoking prevalence by stratum/sex/age groups. We used the same categories as used in the Eurobarometer surveys. To this end, age was divided into 3 intervals (i.e., [18, 39), [40, 54), and 55+ ); urbanization was divided into 3 categories: rural (U1), intermediate (U2), and cities/large urban area (U3).

Eurobarometer survey data from 2014 were used to model smoking prevalence, using a weighted logistic regression of smoking status (binary) on sex, age group, urbanization and NUTS region. A sex  $\times$  age group interaction was also included. This yielded an estimated probability of being a smoker

$$p(s, a, u, r)$$

for someone with sex  $s$ , age group  $a$ , urbanization  $u$  and region  $r$ . (For this purpose, in Spain, Navarra and Basque Country were put together, as were Rioja and Aragon; in Germany, Bremen and Niedersachsen were put together; in each case, it was because the smaller region had no smoker respondents in the Eurobarometer survey. In Spain, the smoking rate for Cantabria, with no Eurobarometer respondents, was taken to be the average of the rates for Galicia and Asturias.)

The logistic regression analysis was restricted to Eurobarometer respondents aged 18 and older.

Projections from census data for January 1, 2015, found at the Eurostat website (see the tables in Appendix B), were used to estimate

$$N(s, a, u, r),$$

the number of people of sex  $s$ , age group  $a$ , urbanization  $u$  and region  $r$ . Specifically, there are tables for:

- (a) Population for each region (NUTS2), age (18+, by single year age category) and sex
- (b) Number of households by region (NUTS2) by degree of urbanization

For Germany, it was possible to obtain the figures for the NUTS1 regions instead.

Using (b), and making the assumption that the population of individuals follows the distribution of households by urban/intermediate/rural areas, it was possible to multiply total population estimates for (a) by the proportion of the population in

each urban category to obtain population estimates within the 4-way table needed for calibration (region  $\times$  urbanization  $\times$  sex  $\times$  age).

The degree of urbanization is not available on the Eurobarometer data for Germany; a different classification is used, as follows, where “Kern” = core and “Rand” = edge.

- Kern  $\geq 500,000$
- Rand  $\geq 500,000$
- Kern 100,000–500,000
- Rand 100,000–500,000
- Kern 50,000–100,000
- Rand 50,000–100,000
- 20,000–50,000
- 5000–20,000
- 2000–5000
- $< 2000$

Eurostat defines urban areas as areas where the majority of the population lives in an urban centre of at least 50,000 people. Thus, in the Eurobarometer data, when carrying out the logistic regression for Germany, the Kern areas were classified as urban, the Rand areas as intermediate, and the rest as rural.

To estimate the number of smokers  $S(s, a, u, r)$  in a cell defined by sex crossed with age group, crossed with urbanization crossed with region,  $N(s, a, u, r)$  was multiplied by  $p(s, a, u, r)$ .

See Appendix B for the tables of the estimated population sizes  $N(s, a, u, r)$ , and the estimated numbers of smokers in each  $S(s, a, u, r)$ .

Some cells  $C(s, a, u, r)$  were merged so that the number of ITC respondents in each cell would be not too small; see Appendix A. Accordingly, let the final set of merged cells for a country be denoted by  $C(k)$ ,  $k = 1, \dots, K$ , and let the estimated number of smokers in the population in cell  $C(k)$  be denoted by  $S(k)$ , which is the sum of  $S(s, a, u, r)$  over all of the original cells  $C(s, a, u, r)$  in the merged cell  $C(k)$ .

For respondents in cell  $C(k)$ , the post-stratification adjustment consisted in multiplying their  $w_i^{(1)}$  weights by a factor to produce calibrated  $w_i^{(2)}$  “inflation weights”. The inflation weight for respondent  $i$  is interpreted as the number of people in the population represented by that respondent. These inflation weights are such that their sum over all respondents in a cell  $C(k)$  is equal to the estimated number of adult smokers in that cell. Formally, if  $i$  is in cell  $C(k)$ ,

$$w_i^{(2)} = w_i^{(1)} \times \frac{S(k)}{\sum_{i \in c(k)} w_i^{(1)}},$$

where  $c(k)$  is the set of all respondents in cell  $C(k)$ . The inflation weights are variable “aDE49915v” in the data set.

## 4 SAMPLING DESIGN AND WEIGHT CONSTRUCTION

Step 4: To facilitate comparisons among the 6 countries and with other ITC countries, the  $w_i^{(2)}$  weights were rescaled to have a mean equal to 1 in each country. This yielded the “analytic”  $w_i^{(3)}$  weights, which are formally defined as

$$w_i^{(3)} = w_i^{(2)} \times \frac{n_\gamma}{\sum_{i \in S_\gamma} w_i^{(2)}},$$

where  $S_\gamma$  is the set of all sampled smokers in country  $\gamma$ , and  $n_\gamma$  is the size of that sample from Table 1.

Hence, in each country  $\gamma$ , the  $w_i^{(3)}$  weights sum to  $n_\gamma$ . The analytic weights are variable “aDE49919v” in the data set.

The means and coefficients of variation (CVs) of the inflation weights in the six countries are given in Appendix C.

### 4.3 Taking the sampling design into account in analyses

The inflation weights and analytic weights adjust for sampling bias in the estimation of population means, ratios, regression coefficients, and more generally parameters that are defined as the solutions of population level estimating equations. Analyses of the data should also take into account the fact that the sampling design within each country is both stratified (tending to increase efficiency) and two-stage at the household level (tending to decrease efficiency because the sample is clustered in primary sampling units (PSUs)). The statistical software packages SAS, SPSS, Stata, R and SUDAAN are able to produce standard errors and hypothesis tests for basic analyses that account for the complex sampling design. In each case, the software requires the stratum and PSU variables and the weight variable to be specified.

#### 4.3.1 Specification of strata and PSUs for analyses

In the ITC 6E sampling design, in each of the countries there was at least one stratum with a single or “lonely PSU”. In such a case, there is no design-based unbiased estimator of the variance of a linear estimator, such as an estimator of a population mean. Some software packages, such as SAS, will simply omit from the analysis data from a stratum with a single PSU. This makes the analysis representative only of the remaining strata. Other packages, such as SUDAAN, use a model-based assumption to allow the single-PSU stratum to contribute to the overall estimation of variance.

An alternative way of handling this situation is to collapse strata, most simply to merge each single-PSU stratum with another that is geographically close to it and can be expected to

have similar attributes. This choice of strata to merge is motivated by the need not to lose too much of the advantage of stratification: if the two strata being merged have very different means, for example, the merging will make the standard error estimation blind to the efficiency gain from the original stratification, meaning that standard errors will tend to be overestimated.

With the ITC 6E data, we have used the stratum collapsing technique, where possible merging a single-PSU stratum with another which is within the same NUTS region and has the same level of urbanization. The variable name for the collapsed strata or “variance strata” is “VARSTRAT”. The variable name for PSU is “VARPSU”.

### 4.3.2 Bootstrap weights

In another approach to accounting for the complex sampling design, we have provided a set of bootstrap weights, based on the Rao and Wu (1988) bootstrap technique, and constructed as follows.

For  $b = 1, \dots, 6000$ , we produced a  $b$ -th “column” of initial bootstrap weights, as follows. Within each variance stratum  $h$  as defined in Section 3.1, if there are  $n_h$  sampled PSUs, we selected  $n_h$  PSUs by simple random sampling *with* replacement. For each respondent  $(h, i, j)$  in sampled PSU  $(h, i)$ , that person’s bootstrap weight  $w_{hijb}$  is the main (inflation or analytic) weight  $w_{hij}$  times  $[1 - \lambda_{1h} + (\text{number of times PSU } (h, i) \text{ has been “resampled”}) \times \lambda_{1h}]$ , where  $\lambda_{1h} = \sqrt{n_h/n_h - 1}$ . The bootstrap weight  $w_{hijb}$  will be 0 if  $(h, i)$  was not resampled, 1 if  $(h, i)$  was resampled once, a higher number if  $(h, i)$  was resampled twice, and so on.

The columns of initial bootstrap weights were then averaged, 12 at a time, to produce 500 averaged bootstrap weight variables. In the data set, the averaged analytic bootstrap weights are named “RSBSW001” to “RSBSW500”.

Because of the fine stratification of the survey design, calibration of each of the initial 6000 bootstrap weight columns with the same method as for the main weights was not feasible. At the same time, it was found that calibration of the averaged bootstrap weights led to underestimation of standard errors as compared with the output of linearization methods. Thus neither the original 6000, nor the 500 averaged bootstrap weights which are provided with the data, have been calibrated.

The averaged bootstrap weights can be used with complex survey software to produce standard errors for various parameter estimates. Typically a BRR (balanced repeated replication) option is used, because the formula for producing standard errors with BRR is easily translated into the formula for producing standard errors in bootstrapping. A useful document is “Weighted estimation and bootstrap variance estimation for analyzing survey data: How to implement in selected software”, by Gagné, Roberts and Keown, at [http://www.itc6.europa.eu/ITC6\\_Europe\\_Country\\_Wave\\_1\\_Technical\\_Report/04\\_Weighted\\_estimation\\_and\\_bootstrap\\_variance\\_estimation\\_for\\_analyzing\\_survey\\_data.pdf](http://www.itc6.europa.eu/ITC6_Europe_Country_Wave_1_Technical_Report/04_Weighted_estimation_and_bootstrap_variance_estimation_for_analyzing_survey_data.pdf).

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## Appendices

### A Sample size tables

A detailed set of sample size tables are available upon request that depict the total number of respondents sampled in each country. Sample sizes in these tables are broken down by sampling region crossed with degree of urbanization crossed with sex and age group.

### B Benchmark/calibration figures

The following tables show (a) the population estimates as of 2015-01-01 and (b) the estimated numbers of smokers in each country for region crossed with urbanization crossed with sex and age group.

Projections from census data for January 1, 2015, found at the Eurostat website were used to estimate the population numbers the number of people by region, urbanization, sex and age group. Specifically, there are tables for:

- (a) Population for each region (NUTS2), age (18+, by single year age category) and sex  
<http://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-data/database>
- (b) Number of households by region (NUTS2) by degree of urbanization  
<http://ec.europa.eu/eurostat/web/degree-of-urbanisation/data/database>  
– the number of households table can be found under the “Labour market” category.

Using (b), and making the assumption that the population of individuals follows the distribution of households by urban/intermediate/rural areas, it was possible to multiply total population estimates for (a) by the proportion of the population in each urban category to obtain population estimates within the 4-way table needed for calibration (region × urbanization × sex × age).

### Germany

## APPENDICES

Table 7. Total population by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Schleswig-Holstein	89,810	87,488	121,525	88,173	88,563	142,914
Hamburg	274,315	202,824	235,560	282,872	196,011	289,967
Niedersachsen	265,469	244,947	333,752	253,669	243,232	392,266
Bremen	97,618	73,888	100,530	92,860	70,766	124,587
Nordrhein-Westfalen	1,177,584	1,041,964	1,375,304	1,150,138	1,037,419	1,662,517
Hessen	270,246	237,373	308,814	264,987	233,977	362,859
Rheinland-Pfalz	115,782	104,617	145,384	111,442	104,290	169,752
Baden-Württemberg	417,631	349,509	450,890	398,497	343,131	531,690
Bayern	537,151	458,523	586,202	517,025	449,289	691,057
Saarland	25,204	22,735	34,895	23,762	23,029	41,664
Berlin	542,185	391,150	486,701	542,693	373,367	594,783
Brandenburg	48,060	51,624	76,003	44,112	50,030	89,600
Mecklenburg-Vorpommern	68,580	63,800	98,515	61,356	60,730	118,671
Sachsen	214,326	182,593	296,109	192,249	170,417	369,170
Sachsen-Anhalt	73,862	71,255	112,825	64,832	67,739	139,879
Thüringen	64,046	59,214	93,642	56,682	55,864	113,583
<b>Intermediate</b>						
Schleswig-Holstein	165,733	161,447	224,258	162,711	163,431	263,728
Hamburg	0	0	0	0	0	0
Niedersachsen	413,021	381,092	519,257	394,663	378,424	610,294
Bremen	0	0	0	0	0	0
Nordrhein-Westfalen	953,646	843,816	1,113,766	931,419	840,136	1,346,360
Hessen	409,976	360,106	468,485	401,998	354,955	550,474
Rheinland-Pfalz	239,400	216,313	300,606	230,426	215,637	350,992
Baden-Württemberg	799,584	669,159	863,260	762,950	656,948	1,017,957
Bayern	708,877	605,112	773,609	682,316	592,926	911,986
Saarland	80,055	72,214	110,838	75,474	73,147	132,336
Berlin	0	0	0	0	0	0
Brandenburg	133,172	143,047	210,603	122,233	138,631	248,278
Mecklenburg-Vorpommern	47,367	44,066	68,044	42,378	41,946	81,965
Sachsen	203,110	173,037	280,613	182,188	161,498	349,850
Sachsen-Anhalt	92,217	88,962	140,863	80,943	84,573	174,641
Thüringen	105,514	97,552	154,272	93,381	92,033	187,123
<b>Rural</b>						
Schleswig-Holstein	88,178	85,898	119,316	86,570	86,953	140,316
Hamburg	0	0	0	0	0	0
Niedersachsen	319,397	294,707	401,552	305,201	292,643	471,953
Bremen	0	0	0	0	0	0
Nordrhein-Westfalen	197,041	174,348	230,125	192,449	173,588	278,183
Hessen	139,175	122,246	159,037	136,466	120,497	186,870
Rheinland-Pfalz	163,695	147,909	205,546	157,559	147,447	239,998
Baden-Württemberg	273,799	229,138	295,603	261,255	224,957	348,576
Bayern	512,235	437,254	559,010	493,042	428,449	659,002

*Continued on next page*

Table 7. (Continued)

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
Saarland	19,433	17,529	26,905	18,321	17,756	32,124
Berlin	0	0	0	0	0	0
Brandenburg	99,019	106,361	156,591	90,885	103,078	184,604
Mecklenburg-Vorpommern	83,169	77,373	119,473	74,409	73,649	143,916
Sachsen	103,424	88,111	142,889	92,771	82,236	178,145
Sachsen-Anhalt	102,924	99,292	157,218	90,342	94,393	194,918
Thüringen	97,939	90,549	143,197	86,677	85,426	173,689

## APPENDICES

Table 8. Total smokers by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Schleswig-Holstein	70,941	74,898	84,788	60,637	63,172	76,245
Hamburg	104,925	100,378	64,873	75,301	56,980	45,960
Niedersachsen	72,924	91,782	62,946	46,041	48,744	40,521
Bremen	26,816	27,686	18,960	16,854	14,182	12,870
Nordrhein-Westfalen	469,974	533,902	398,288	322,154	316,828	279,469
Hessen	96,235	110,758	78,253	64,816	62,682	52,252
Rheinland-Pfalz	43,268	50,802	38,963	28,852	29,524	26,074
Baden-Württemberg	127,586	143,404	95,859	81,652	77,376	62,739
Bayern	187,681	210,645	145,319	123,724	117,804	97,024
Saarland	11,370	12,852	11,700	7,723	8,113	8,333
Berlin	239,863	217,714	159,346	172,142	128,550	115,626
Brandenburg	14,951	21,512	13,985	9,224	11,512	10,815
Mecklenburg-Vorpommern	32,651	37,629	35,268	21,315	22,804	25,692
Sachsen	60,333	69,860	57,386	35,874	35,089	39,317
Sachsen-Anhalt	38,076	44,698	44,566	24,889	27,990	34,186
Thüringen	26,893	31,608	28,795	16,874	18,094	20,490
<b>Intermediate</b>						
Schleswig-Holstein	124,913	133,807	146,328	104,444	109,417	127,117
Hamburg	0	0	0	0	0	0
Niedersachsen	97,308	124,922	82,614	60,344	64,105	52,302
Bremen	0	0	0	0	0	0
Nordrhein-Westfalen	334,634	388,999	277,439	224,006	221,376	190,106
Hessen	127,257	149,768	101,380	83,857	81,462	66,277
Rheinland-Pfalz	78,236	93,988	69,019	51,016	52,443	45,173
Baden-Württemberg	210,770	241,968	155,473	132,219	125,806	99,963
Bayern	215,640	247,430	163,618	139,056	133,053	106,976
Saarland	32,086	37,132	32,265	21,246	22,449	22,378
Berlin	0	0	0	0	0	0
Brandenburg	35,783	52,598	38,751	21,647	27,116	24,952
Mecklenburg-Vorpommern	20,136	23,760	21,243	12,807	13,783	15,049
Sachsen	49,112	58,019	45,936	28,676	28,133	30,927
Sachsen-Anhalt	42,789	51,420	48,879	27,237	30,810	36,395
Thüringen	39,209	47,059	40,959	23,952	25,815	28,424
<b>Rural</b>						
Schleswig-Holstein	66,521	71,244	77,973	55,647	58,285	67,773
Hamburg	0	0	0	0	0	0
Niedersachsen	75,474	96,870	64,088	46,818	49,749	40,588
Bremen	0	0	0	0	0	0
Nordrhein-Westfalen	69,319	80,549	57,508	46,419	45,879	39,419
Hessen	43,311	50,964	34,527	28,562	27,738	22,574
Rheinland-Pfalz	53,643	64,400	47,337	34,994	35,962	30,984
Baden-Württemberg	72,392	83,063	53,415	45,432	43,214	34,335
Bayern	156,232	179,187	118,622	100,827	96,444	77,630

*Continued on next page*

Table 8. (Continued)

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
Saarland	7,808	9,031	7,854	5,172	5,464	5,448
Berlin	0	0	0	0	0	0
Brandenburg	26,686	39,205	28,907	16,150	20,224	18,627
Mecklenburg-Vorpommern	35,438	41,797	37,395	22,553	24,267	26,509
Sachsen	25,080	29,623	23,462	14,649	14,375	15,801
Sachsen-Anhalt	47,860	57,490	54,696	30,481	34,472	40,757
Thüringen	36,394	43,771	38,133	22,302	24,030	26,470

## APPENDICES

### Greece

Table 9. Total population by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Attica	388,620	294,972	383,376	391,428	332,028	492,459
Crete	35,095	25,632	33,455	35,762	25,951	38,171
Eastern Macedonia & Thrace	8,468	5,743	9,028	7,477	6,016	10,782
Central Macedonia	100,134	80,723	114,028	102,259	85,395	138,160
Western Macedonia	0	0	0	0	0	0
Epirus	9,536	7,980	14,266	10,123	7,910	15,892
Thessaly	43,794	35,618	57,173	43,497	36,106	65,792
Western Greece	31,676	23,520	34,974	30,516	23,489	39,965
Central Greece	6,870	5,568	8,244	6,143	5,255	9,420
Peloponnese	9,437	7,952	13,010	8,738	7,937	14,038
<b>Intermediate</b>						
Attica	138,647	105,236	136,776	139,649	118,457	175,693
Crete	17,383	12,696	16,571	17,714	12,854	18,907
Eastern Macedonia & Thrace	41,523	28,160	44,269	36,663	29,497	52,867
Central Macedonia	86,363	69,622	98,347	88,196	73,651	119,160
Western Macedonia	17,623	15,868	24,119	17,586	15,843	26,518
Epirus	8,626	7,219	12,906	9,157	7,156	14,376
Thessaly	21,626	17,589	28,233	21,479	17,830	32,489
Western Greece	23,500	17,450	25,947	22,640	17,426	29,650
Central Greece	28,319	22,954	33,985	25,324	21,664	38,832
Peloponnese	23,304	19,635	32,125	21,578	19,598	34,663
<b>Rural</b>						
Attica	13,694	10,394	13,509	13,793	11,700	17,353
Crete	39,104	28,559	37,277	39,847	28,915	42,531
Eastern Macedonia & Thrace	38,961	26,422	41,537	34,401	27,677	49,605
Central Macedonia	64,705	52,161	73,683	66,077	55,180	89,276
Western Macedonia	16,563	14,913	22,668	16,528	14,890	24,922
Epirus	23,151	19,373	34,634	24,574	19,204	38,581
Thessaly	28,666	23,314	37,423	28,471	23,633	43,065
Western Greece	39,925	29,645	44,082	38,463	29,605	50,372
Central Greece	41,112	33,323	49,337	36,763	31,450	56,374
Peloponnese	42,110	35,481	58,050	38,991	35,414	62,637

Table 10. Total smokers by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Attica	188,986	166,718	123,064	162,951	167,840	110,065
Crete	17,537	14,820	11,130	15,353	13,463	8,890
Eastern Macedonia & Thrace	3,836	3,055	2,641	2,872	2,840	2,168
Central Macedonia	50,578	47,110	38,496	44,442	44,773	32,730
Western Macedonia	0	0	0	0	0	0
Epirus	6,055	5,625	6,631	5,741	5,162	5,499
Thessaly	20,255	19,287	17,175	17,103	17,389	13,639
Western Greece	15,132	13,091	10,961	12,444	11,669	8,696
Central Greece	3,784	3,493	3,130	2,949	2,994	2,558
Peloponnese	3,166	3,255	2,619	2,407	2,800	1,868
<b>Intermediate</b>						
Attica	62,377	55,659	39,651	53,220	55,544	34,980
Crete	8,050	6,883	4,988	6,976	6,198	3,929
Eastern Macedonia & Thrace	17,315	13,950	11,647	12,836	12,852	9,442
Central Macedonia	40,461	38,125	30,055	35,190	35,920	25,190
Western Macedonia	15,150	14,183	18,176	14,454	13,763	17,255
Epirus	5,179	4,862	5,532	4,861	4,427	4,508
Thessaly	9,219	8,882	7,640	7,707	7,936	5,988
Western Greece	10,371	9,077	7,338	8,445	8,021	5,740
Central Greece	14,564	13,600	11,752	11,236	11,556	9,459
Peloponnese	7,075	7,351	5,741	5,334	6,273	4,056
<b>Rural</b>						
Attica	5,269	4,802	3,215	4,418	4,717	2,773
Crete	15,544	13,574	9,237	13,229	12,029	7,107
Eastern Macedonia & Thrace	13,777	11,332	8,910	10,038	10,279	7,074
Central Macedonia	26,063	25,079	18,561	22,255	23,253	15,195
Western Macedonia	13,651	12,907	15,881	12,880	12,433	14,647
Epirus	12,381	11,858	12,628	11,402	10,635	9,992
Thessaly	10,389	10,219	8,270	8,536	8,988	6,348
Western Greece	15,040	13,441	10,214	12,027	11,688	7,818
Central Greece	18,402	17,548	14,209	13,930	14,675	11,140
Peloponnese	10,532	11,145	8,284	7,829	9,378	5,769

**Hungary**

Table 11. Total population by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Central Hungary	288,755	185,594	233,102	291,121	190,681	342,176
Central Transdanubia	16,706	11,334	14,699	15,562	11,186	20,340
Western Transdanubia	35,954	25,120	32,804	34,009	24,659	45,096
Southern Transdanubia	23,303	16,588	23,120	22,213	16,857	32,528
Northern Hungary	27,555	18,736	24,429	25,556	18,919	36,076
Northern Great Plain	55,455	36,449	45,098	52,183	36,630	63,669
Southern Great Plain	46,985	32,212	44,382	44,331	32,538	62,914
<b>Intermediate</b>						
Central Hungary	144,860	93,107	116,941	146,047	95,659	171,660
Central Transdanubia	71,697	48,641	63,084	66,789	48,010	87,296
Western Transdanubia	53,580	37,434	48,886	50,681	36,748	67,204
Southern Transdanubia	42,802	30,469	42,465	40,800	30,962	59,746
Northern Hungary	63,710	43,319	56,481	59,088	43,742	83,411
Northern Great Plain	77,189	50,734	62,773	72,634	50,985	88,622
Southern Great Plain	67,112	46,011	63,394	63,321	46,476	89,864
<b>Rural</b>						
Central Hungary	31,718	20,387	25,605	31,978	20,945	37,586
Central Transdanubia	75,455	51,191	66,390	70,289	50,526	91,872
Western Transdanubia	59,788	41,772	54,550	56,553	41,006	74,991
Southern Transdanubia	64,871	46,179	64,361	61,837	46,926	90,552
Northern Hungary	81,714	55,560	72,443	75,785	56,103	106,982
Northern Great Plain	97,233	63,909	79,074	91,496	64,225	111,635
Southern Great Plain	74,643	51,174	70,508	70,427	51,692	99,949

Table 12. Total smokers by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Central Hungary	114,636	65,329	49,627	63,726	57,166	36,100
Central Transdanubia	9,324	5,783	5,021	5,440	5,044	3,753
Western Transdanubia	16,082	10,056	8,185	8,713	8,502	5,709
Southern Transdanubia	10,158	6,458	5,570	5,498	5,637	3,955
Northern Hungary	13,530	8,302	6,933	7,437	7,291	5,314
Northern Great Plain	25,204	14,846	11,500	13,662	12,868	8,271
Southern Great Plain	18,465	11,213	9,325	9,575	9,638	6,537
<b>Intermediate</b>						
Central Hungary	63,811	36,656	28,569	36,658	32,381	21,217
Central Transdanubia	43,133	26,981	24,149	26,128	23,784	18,585
Western Transdanubia	26,351	16,617	13,903	14,784	14,188	9,926
Southern Transdanubia	20,554	13,175	11,682	11,514	11,617	8,484
Northern Hungary	34,117	21,118	18,153	19,452	18,743	14,280
Northern Great Plain	38,517	22,881	18,223	21,623	20,037	13,417
Southern Great Plain	29,281	17,930	15,291	15,691	15,560	10,945
<b>Rural</b>						
Central Hungary	13,027	7,443	5,700	7,317	6,531	4,172
Central Transdanubia	43,168	26,845	23,535	25,487	23,495	17,750
Western Transdanubia	27,586	17,298	14,199	15,111	14,668	9,974
Southern Transdanubia	29,185	18,606	16,187	15,966	16,288	11,573
Northern Hungary	41,282	25,402	21,407	22,955	22,385	16,539
Northern Great Plain	45,563	26,912	21,026	24,969	23,404	15,227
Southern Great Plain	30,357	18,484	15,491	15,902	15,931	10,924

## APPENDICES

## Poland

Table 13. Total population by degree of urbanization and age-sex group.

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
<b>Urban</b>						
Łódzkie	191,259	114,296	162,808	182,873	116,981	230,158
Mazowieckie	424,749	242,973	330,065	422,853	246,532	452,401
Małopolskie	216,365	123,945	155,542	211,271	123,750	204,558
Śląskie	452,539	279,143	382,154	436,539	281,496	504,044
Lubelskie	107,420	61,659	81,845	100,674	60,948	111,518
Podkarpackie	68,477	39,402	48,399	64,907	38,556	62,801
Świętokrzyskie	50,053	29,532	42,161	46,624	28,740	54,878
Podlaskie	85,219	51,125	64,784	79,722	50,298	85,952
Wielkopolskie	204,836	114,709	146,755	197,924	115,154	192,484
Zachodniopomorskie	100,956	58,876	82,373	96,300	57,989	106,584
Lubuskie	43,270	24,639	33,217	41,344	24,272	43,276
Dolnośląskie	215,571	122,836	176,115	208,635	122,628	237,598
Opolskie	21,056	13,344	17,541	20,251	13,134	23,160
Kujawsko-Pomorskie	149,704	87,405	115,224	144,422	88,344	152,026
Warmińsko-Mazurskie	69,743	40,544	50,286	65,706	39,743	65,737
Pomorskie	175,132	99,814	130,602	170,870	99,044	167,525
<b>Intermediate</b>						
Łódzkie	83,269	49,761	70,882	79,618	50,930	100,205
Mazowieckie	216,245	123,700	168,040	215,279	125,512	230,322
Małopolskie	182,378	104,476	131,110	178,084	104,312	172,426
Śląskie	193,186	119,164	163,139	186,356	120,169	215,173
Lubelskie	78,329	44,961	59,680	73,410	44,442	81,317
Podkarpackie	136,577	78,586	96,530	129,457	76,899	125,255
Świętokrzyskie	42,249	24,927	35,587	39,354	24,259	46,321
Podlaskie	32,612	19,565	24,792	30,508	19,248	32,892
Wielkopolskie	130,247	72,939	93,316	125,852	73,222	122,394
Zachodniopomorskie	42,322	24,681	34,532	40,370	24,310	44,681
Lubuskie	37,758	21,500	28,985	36,077	21,180	37,763
Dolnośląskie	95,569	54,457	78,077	92,494	54,365	105,335
Opolskie	36,477	23,118	30,388	35,081	22,754	40,121
Kujawsko-Pomorskie	43,488	25,391	33,472	41,954	25,663	44,163
Warmińsko-Mazurskie	50,802	29,533	36,630	47,862	28,950	47,884
Pomorskie	88,601	50,497	66,072	86,444	50,107	84,752
<b>Rural</b>						
Łódzkie	121,996	72,905	103,849	116,647	74,617	146,808
Mazowieckie	225,751	129,139	175,427	224,744	131,030	240,448
Małopolskie	163,112	93,440	117,260	159,272	93,292	154,212
Śląskie	84,623	52,198	71,461	81,631	52,638	94,254
Lubelskie	171,083	98,202	130,350	160,339	97,068	177,609
Podkarpackie	153,588	88,375	108,553	145,581	86,477	140,856
Świętokrzyskie	113,230	66,806	95,376	105,472	65,015	124,145

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Table 13. (Continued)

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
Podlaskie	77,339	46,398	58,794	72,350	45,647	78,005
Wielkopolskie	251,793	141,005	180,398	243,296	141,552	236,610
Zachodniopomorskie	136,157	79,405	111,095	129,878	78,208	143,748
Lubuskie	88,469	50,376	67,915	84,531	49,627	88,481
Dolnośląskie	163,354	93,082	133,456	158,098	92,924	180,046
Opolskie	97,286	61,656	81,047	93,564	60,685	107,006
Kujawsko-Pomorskie	149,283	87,159	114,900	144,015	88,095	151,598
Warmińsko-Mazurskie	121,430	70,592	87,555	114,401	69,198	114,456
Pomorskie	115,945	66,081	86,464	113,123	65,571	110,909

## APPENDICES

Table 14. Total smokers by degree of urbanization and age-sex group.

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
<b>Urban</b>						
Łódzkie	60,859	54,405	45,684	54,332	30,614	45,318
Mazowieckie	148,322	124,135	102,188	138,315	71,371	99,483
Małopolskie	36,717	24,554	22,694	33,022	16,632	19,842
Śląskie	152,596	138,902	113,997	137,728	78,453	106,303
Lubelskie	35,814	30,423	24,128	31,400	30,072	23,207
Podkarpackie	24,255	20,347	15,212	21,549	11,335	14,049
Świętokrzyskie	13,549	12,389	9,984	11,735	6,320	8,956
Podlaskie	34,582	29,177	23,536	30,470	17,177	22,691
Wielkopolskie	60,365	51,458	37,980	54,350	27,741	34,647
Zachodniopomorskie	27,420	24,763	19,572	24,316	12,798	17,458
Lubuskie	27,213	18,908	19,468	25,038	13,658	20,383
Dolnośląskie	59,692	52,463	42,708	53,744	27,628	39,798
Opolskie	4,763	4,840	3,443	4,241	2,386	3,083
Kujawsko-Pomorskie	49,462	42,820	33,645	44,612	24,083	31,302
Warmińsko-Mazurskie	13,126	12,605	8,161	11,400	5,950	7,132
Pomorskie	29,545	28,277	18,937	26,553	13,232	16,149
<b>Intermediate</b>						
Łódzkie	27,021	24,049	20,308	24,148	13,614	20,191
Mazowieckie	76,962	64,101	53,084	71,817	37,101	51,822
Małopolskie	31,716	30,371	19,614	28,529	14,374	17,174
Śląskie	66,417	60,166	49,676	59,988	34,200	46,434
Lubelskie	26,624	22,512	17,958	23,359	12,497	17,321
Podkarpackie	49,291	41,155	30,948	43,821	23,077	28,658
Świętokrzyskie	11,682	10,634	8,616	10,122	5,458	7,745
Podlaskie	13,462	11,305	9,176	11,871	6,700	8,874
Wielkopolskie	39,178	33,246	24,682	35,301	18,035	22,569
Zachodniopomorskie	11,740	10,556	8,388	10,419	5,487	7,497
Lubuskie	23,999	16,609	17,194	22,097	12,070	18,058
Dolnośląskie	27,027	23,651	19,355	24,344	12,531	18,075
Opolskie	8,437	8,540	6,108	7,518	4,232	5,477
Kujawsko-Pomorskie	14,651	12,624	9,975	13,224	7,145	9,305
Warmińsko-Mazurskie	9,790	9,368	6,092	8,510	4,441	5,334
Pomorskie	15,319	14,604	9,825	13,762	6,865	8,382
<b>Rural</b>						
Łódzkie	42,455	37,152	32,037	38,027	21,520	32,151
Mazowieckie	85,853	70,303	59,470	80,324	41,654	58,621
Małopolskie	30,910	29,228	19,172	27,841	14,068	16,871
Śląskie	31,133	27,728	23,382	28,179	16,134	22,074
Lubelskie	62,257	51,752	42,168	54,740	29,402	41,045
Podkarpackie	59,208	48,589	37,342	52,759	27,906	34,918
Świętokrzyskie	33,754	30,230	24,979	29,300	15,851	22,644
Podlaskie	33,921	27,992	23,224	29,982	16,999	22,699
Wielkopolskie	81,430	67,964	51,486	73,524	37,695	47,488

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Table 14. (Continued)

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
Zachodniopomorskie	40,711	36,018	29,196	36,197	19,137	26,320
Lubuskie	58,363	39,822	41,992	53,863	29,553	44,639
Dolnośląskie	49,758	42,846	35,766	44,916	23,203	33,687
Opolskie	24,380	24,311	17,701	21,754	12,289	15,987
Kujawsko-Pomorskie	53,861	45,628	36,825	48,720	26,428	34,670
Warmińsko-Mazurskie	25,452	24,030	15,882	22,159	11,598	13,998
Pomorskie	21,844	20,571	14,050	19,661	9,829	12,056

## APPENDICES

### Romania

Table 15. Total population by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
North-West	118,494	78,468	93,874	112,803	76,075	123,288
Central	105,047	71,537	91,367	98,015	69,435	116,693
North-East	136,912	95,862	119,840	124,116	87,857	152,514
South-East	126,652	96,245	124,266	116,364	91,508	159,515
South	92,679	71,780	89,519	84,251	67,073	118,306
Bucharest	331,228	191,549	227,613	345,974	208,623	325,318
South-West	83,607	65,845	82,889	77,011	62,128	106,055
West	84,314	58,920	71,332	79,981	57,447	94,264
<b>Intermediate</b>						
North-West	100,605	66,622	79,702	95,773	64,590	104,675
Central	104,799	71,368	91,151	97,784	69,272	116,418
North-East	110,249	77,194	96,502	99,945	70,747	122,813
South-East	85,783	65,188	84,167	78,815	61,980	108,042
South	122,932	95,211	118,740	111,752	88,967	156,925
Bucharest	44,569	25,774	30,627	46,553	28,072	43,774
South-West	35,147	27,680	34,845	32,374	26,118	44,583
West	87,578	61,201	74,093	83,077	59,670	97,913
<b>Rural</b>						
North-West	192,525	127,493	152,524	183,279	123,604	200,314
Central	150,261	102,328	130,693	140,204	99,322	166,921
North-East	240,326	168,270	210,358	217,865	154,217	267,713
South-East	145,494	110,563	142,753	133,676	105,122	183,246
South	227,014	175,824	219,274	206,369	164,293	289,788
Bucharest	13,727	7,938	9,433	14,338	8,646	13,482
South-West	171,627	135,166	170,153	158,086	127,535	217,706
West	111,413	77,857	94,259	105,688	75,911	124,562

Table 16. Total smokers by degree of urbanization and age-sex group.

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
<b>Urban</b>						
North-West	52,232	29,504	11,058	35,070	18,722	10,356
Central	55,234	32,821	14,454	38,059	21,858	13,326
North-East	56,202	33,302	12,655	35,385	19,671	11,423
South-East	58,133	37,863	15,620	38,039	23,801	14,324
South	60,149	42,042	21,359	43,330	29,096	20,940
Bucharest	175,816	88,821	36,623	136,002	66,572	37,834
South-West	62,981	46,098	28,265	48,994	34,705	27,797
West	55,082	34,775	17,262	41,502	25,185	16,939
<b>Intermediate</b>						
North-West	30,222	16,462	5,404	18,896	9,753	4,983
Central	39,467	22,545	8,468	25,130	13,868	7,637
North-East	30,329	17,361	5,829	17,840	9,615	5,195
South-East	27,116	17,021	6,111	16,488	9,960	5,510
South	61,700	41,426	17,324	40,879	26,201	16,461
Bucharest	16,994	8,255	2,897	12,141	5,710	2,928
South-West	21,953	15,498	7,666	15,795	10,659	7,227
West	44,367	26,910	10,981	30,755	17,806	10,438
<b>Rural</b>						
North-West	59,028	32,205	10,631	37,022	19,134	9,795
Central	57,625	32,980	12,468	36,818	20,351	11,267
North-East	67,532	38,702	13,063	39,826	21,482	11,646
South-East	46,922	29,498	10,649	28,620	17,314	9,602
South	115,596	77,767	32,781	76,893	49,386	31,210
Bucharest	5,329	2,593	916	3,821	1,800	926
South-West	108,365	76,639	38,284	78,284	52,953	36,161
West	57,255	34,794	14,318	39,844	23,122	13,640

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**Spain**

Table 17. Total population by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Galicia	139,534	121,795	176,058	136,440	123,324	218,339
Asturias	72,644	69,132	100,039	70,868	70,372	128,027
Cantabria	24,397	21,800	27,802	23,570	21,561	33,951
Basque Country	88,940	85,404	110,728	87,237	85,114	136,908
Rioja	21,075	18,677	23,520	20,680	17,950	27,082
Aragon	94,717	82,984	105,097	89,549	78,381	123,905
Madrid	750,580	621,299	643,682	765,922	646,188	836,540
Castile-Leon	123,946	114,994	167,830	117,132	110,681	193,523
Castile-La Mancha	77,033	61,481	70,026	71,545	57,364	79,358
Extremadura	37,913	31,315	38,638	35,897	30,018	44,588
Cataluna	622,139	528,437	603,330	616,187	514,711	738,443
Valencia	250,809	212,258	245,849	241,774	205,700	291,282
Baleares	67,560	53,211	52,684	65,876	50,186	60,275
Andalucia	514,380	403,975	430,155	497,197	399,287	509,349
Murcia	106,587	81,749	80,138	100,255	76,955	93,640
<b>Intermediate</b>						
Galicia	85,953	75,026	108,452	84,048	75,968	134,497
Asturias	22,800	21,698	31,399	22,243	22,087	40,183
Cantabria	36,155	32,306	41,202	34,929	31,953	50,314
Basque Country	63,163	60,652	78,637	61,954	60,446	97,230
Rioja	10,961	9,714	12,233	10,756	9,336	14,086
Aragon	32,202	28,213	35,731	30,445	26,648	42,125
Madrid	112,184	92,861	96,207	114,477	96,581	125,032
Castile-Leon	65,343	60,624	88,479	61,751	58,350	102,023
Castile-La Mancha	31,445	25,097	28,585	29,205	23,416	32,394
Extremadura	12,674	10,468	12,916	12,000	10,035	14,905
Cataluna	295,469	250,967	286,536	292,642	244,449	350,704
Valencia	322,744	273,137	316,362	311,118	264,697	374,826
Baleares	37,489	29,527	29,235	36,555	27,848	33,446
Andalucia	273,472	214,775	228,694	264,337	212,283	270,797
Murcia	38,747	29,718	29,132	36,445	27,975	34,041
<b>Rural</b>						
Galicia	131,903	115,134	166,430	128,978	116,579	206,398
Asturias	34,172	32,520	47,059	33,337	33,103	60,225
Cantabria	17,752	15,862	20,230	17,150	15,688	24,704
Basque Country	117,805	113,122	146,665	115,550	112,738	181,342
Rioja	10,146	8,992	11,323	9,956	8,642	13,038
Aragon	54,760	47,977	60,761	51,772	45,315	71,635
Madrid	51,974	43,022	44,572	53,036	44,745	57,926
Castile-Leon	127,454	118,250	172,581	120,448	113,814	199,001
Castile-La Mancha	202,103	161,300	183,719	187,706	150,499	208,203

*Continued on next page*

Table 17. (Continued)

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
Extremadura	106,404	87,886	108,437	100,746	84,247	125,137
Cataluna	114,137	96,946	110,686	113,045	94,428	135,474
Valencia	127,367	107,790	124,848	122,779	104,459	147,920
Baleares	72,665	57,231	56,665	70,854	53,978	64,829
Andalucia	474,169	372,395	396,528	458,329	368,074	469,531
Murcia	83,518	64,056	62,794	78,556	60,300	73,373

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Table 18. Total smokers by degree of urbanization and age-sex group.

Region	Men			Women		
	18–39	40–54	≥55	18–39	40–54	≥55
<b>Urban</b>						
Galicia	61,269	63,589	43,979	55,272	42,793	30,982
Asturias	38,814	42,558	32,813	35,399	30,809	24,978
Cantabria	11,874	12,401	8,032	10,661	8,461	5,721
Basque Country	30,008	35,477	19,710	26,773	21,857	13,294
Rioja	8,525	9,090	5,273	7,681	5,663	3,399
Aragon	38,313	40,388	23,563	33,258	24,729	15,550
Madrid	297,155	296,795	140,323	278,030	198,897	101,723
Castile-Leon	56,358	61,855	43,938	49,242	40,000	28,990
Castile-La Mancha	36,668	34,368	19,516	31,580	21,879	12,777
Extremadura	17,713	17,233	10,498	15,533	11,200	6,969
Cataluna	189,068	200,066	94,481	169,575	117,663	62,325
Valencia	103,985	105,513	56,914	92,164	66,770	37,896
Baleares	20,106	19,773	8,045	17,740	11,207	4,949
Andalucia	226,224	211,239	107,711	201,763	138,792	72,480
Murcia	33,362	31,776	13,006	28,452	18,169	8,222
<b>Intermediate</b>						
Galicia	36,728	38,278	26,126	33,081	25,540	18,318
Asturias	11,911	13,110	9,969	10,843	9,409	7,542
Cantabria	17,168	18,001	11,504	15,388	12,177	8,148
Basque Country	20,635	24,491	13,455	18,388	14,979	9,042
Rioja	4,308	4,611	2,641	3,875	2,850	1,695
Aragon	12,655	13,393	7,714	10,969	8,136	5,068
Madrid	43,135	43,245	20,194	40,296	28,752	14,579
Castile-Leon	28,940	31,882	22,359	25,244	20,446	14,671
Castile-La Mancha	14,590	13,733	7,695	12,546	8,666	5,008
Extremadura	5,770	5,636	3,388	5,052	3,632	2,237
Cataluna	86,809	92,205	43,095	77,755	53,828	28,337
Valencia	130,066	132,499	70,580	115,083	83,168	46,778
Baleares	10,786	10,642	4,286	9,501	5,990	2,629
Andalucia	117,073	109,729	55,230	104,228	71,497	36,964
Murcia	11,733	11,213	4,542	9,990	6,367	2,859
<b>Rural</b>						
Galicia	51,706	54,539	35,816	46,342	35,487	24,747
Asturias	16,604	18,497	13,492	15,038	12,933	10,021
Cantabria	7,792	8,268	5,077	6,949	5,452	3,536
Basque Country	34,811	41,765	22,205	30,887	24,971	14,761
Rioja	3,640	3,943	2,176	3,259	2,378	1,378
Aragon	19,648	21,038	11,678	16,950	12,471	7,572
Madrid	18,217	18,482	8,322	16,945	11,996	5,926
Castile-Leon	51,899	57,883	39,021	45,048	36,181	25,213
Castile-La Mancha	86,500	82,392	44,350	73,994	50,688	28,420
Extremadura	44,626	44,119	25,483	38,868	27,709	16,568
Cataluna	30,189	32,399	14,688	26,927	18,527	9,564

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Table 18. (Continued)

Region	Men			Women		
	18-39	40-54	≥55	18-39	40-54	≥55
Valencia	46,922	48,376	24,820	41,327	29,625	16,227
Baleares	18,798	18,743	7,321	16,495	10,337	4,447
Andalucia	186,206	176,664	85,531	164,998	112,263	56,438
Murcia	22,784	22,016	8,640	19,325	12,235	5,386

## **C Summary statistics of the weights**

The following tables show the means, standard deviations and coefficients of variation for the weights in the regions crossed with urbanization (following merging as indicated in Appendix A).

Table 19. Germany Wave 1 inflation weights: summary statistics.

Region		N	Sum	Mean	SD	CV
Baden-Württemberg	Urban	37	445,212	12032.76	4447.40	36.96
	Intermediate	65	1,109,603	17070.82	6026.89	35.31
	Rural	29	331,851	11443.14	6248.86	54.61
Bayern	Urban	50	882,197	17643.94	12006.08	68.05
	Intermediate	70	1,005,773	14368.19	6577.90	45.78
	Rural	50	728,942	14578.84	4399.03	30.17
Berlin	Urban	30	1,033,241	34441.37	13104.80	38.05
Former East Germany	Urban	51	912,376	17889.73	5496.05	30.72
	Intermediate	58	991,376	17092.69	7876.08	46.08
	Rural	45	917,604	20391.20	11880.10	58.26
Hamberg/Bremen/ Schleswig-Holstein/ Niedersachsen	Urban	96	1,359,424	14160.67	4740.62	33.48
	Intermediate	62	1,227,621	19800.34	8780.17	44.34
	Rural	40	771,030	19275.75	9194.27	47.70
Urban areas of Hessen...*	Urban	114	3,003,094	26342.93	10706.42	40.64
Intermediate areas of Hessen...†	Intermediate	78	1,167,432	14967.08	7122.50	47.59
Rest of Nordrhien-Westfalen	Intermediate	78	1,636,560	20981.54	8773.90	41.82
Rural ares of Hessen...‡	Rural	50	814,089	16281.78	5088.18	31.25

\*Urban areas of Hessen/Nordrhein-Westfalen/Rheinland-Pfalz

†Intermediate areas of Hessen/Rheinland-Pfalz/Saarland

‡Rural ares of Hessen/Nordrhein-Westfalen/Rheinland-Pfalz

Table 20. Greece Wave 1 inflation weights: summary statistics.

Region		N	Sum	Mean	SD	CV
Attica	Urban	400	1,246,249	3115.62	1144.37	36.73
Crete	Urban	50	188,937	3778.74	1635.62	43.28
Northern Greece	Urban	30	310,254	10341.80	4403.45	42.58
	Intermediate	180	405,333	2251.85	568.32	25.24
	Rural	100	343,111	3431.11	1336.80	38.96
Central Greece	Urban	50	211,864	4237.28	1501.49	35.44
	Intermediate	99	204,361	2064.25	1134.32	54.95
	Rural	91	265,819	2921.09	1374.57	47.06

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Table 21. Hungary Wave 1 inflation weights: summary statistics.

Region		N	Sum	Mean	SD	CV
Central Hungary	Urban	192	386,584	2013.46	1035.13	51.41
	Intermediate	109	263,482	2417.27	1240.71	51.33
Urban Transdanubia*	Urban	60	128,888	2148.13	949.29	44.19
Rest of Central Transdanubia	Intermediate	40	162,760	4069.00	3075.88	75.59
	Rural	40	160,280	4007.00	1841.17	45.95
Rest of Western Transdanubia	Intermediate	30	95,769	3192.30	1982.95	62.12
	Rural	50	98,836	1976.72	686.94	34.75
Rest of Southern Transdanubia	Intermediate	40	77,026	1925.65	592.38	30.76
	Rural	40	107,805	2695.13	1452.07	53.88
Urban Northern/Great Plain <sup>†</sup>	Urban	90	199,911	2221.23	1128.61	50.81
Rest of Northern Hungary	Intermediate	50	125,863	2517.26	1109.38	44.07
	Rural	50	149,970	2999.40	1155.13	38.51
Rest of Northern Great Plain	Intermediate	60	134,698	2244.97	586.84	26.14
	Rural	50	157,101	3142.02	1773.08	56.43
Rest of Southern Great Plain	Intermediate	59	104,698	1774.54	560.43	31.58
	Rural	40	107,089	2677.23	812.45	30.35

\*Urban areas of Central/Western/Southern Transdanubia

<sup>†</sup>Urban Northern Hungary and Northern & Southern Great Plain

Table 22. Poland Wave 1 inflation weights: summary statistics.

Region		N	Sum	Mean	SD	CV
Lodzkie (NUTS2)	Urban	29	291,212	10041.79	5439.11	54.16
	Intermediate	22	129,331	5878.68	2756.69	46.89
	Rural	28	203,342	7262.21	3797.19	52.29
Mazowieckie (NUTS2)	Urban	64	683,814	10684.59	3694.32	34.58
	Intermediate	44	354,887	8065.61	2047.52	25.39
	Rural	48	396,225	8254.69	2376.85	28.79
Poludniowy (NUTS1)	Urban	75	881,440	11752.53	5379.99	45.78
	Intermediate	90	458,659	5096.21	2650.69	52.01
	Rural	63	286,720	4551.11	1933.68	42.49
Wschodni (NUTS1)	Urban	48	502,357	10465.77	5085.35	48.59
	Intermediate	41	452,866	11045.51	3563.82	32.26
	Rural	90	853,661	9485.12	5294.18	55.82
Polnocno-Zachodni (NUTS1)	Urban	53	517,536	9764.83	4614.77	47.26
	Intermediate	53	337,125	6360.85	3525.60	55.43
	Rural	52	815,398	15680.73	7643.61	48.75
Poludniowo-Zachodni (NUTS1)	Urban	21	298,789	14228.05	3551.69	24.96
	Intermediate	25	165,295	6611.80	2475.81	37.45
	Rural	18	346,598	19255.44	6465.94	33.58
Polnocny (NUTS1)	Urban	51	416,991	8176.29	5196.16	63.55
	Intermediate	34	179,216	5271.06	2790.68	52.94
	Rural	57	457,262	8022.14	5666.73	70.64

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Table 23. Romania Wave 1 inflation weights: summary statistics.

Region		N	Sum	Mean	SD	CV
North-West + Central	Urban	69	332,694	4821.65	1427.97	29.62
	Intermediate	70	202,835	2897.64	2036.15	70.27
	Rural	100	339,324	3393.24	1354.23	39.91
North-East	Urban	49	168,638	3441.59	1530.90	44.48
	Intermediate	60	168,375	2806.25	1349.84	48.10
	Rural	80	192,251	2403.14	1426.19	59.35
South-East	Urban	63	187,780	2980.63	1293.91	43.41
	Rural	51	142,605	2796.18	1826.73	65.33
South + Bucharest	Urban	120	758,584	6321.53	3952.70	62.53
	Intermediate	70	252,916	3613.09	2677.76	74.11
	Rural	80	399,018	4987.73	1794.99	35.99
South-West + West	Urban	59	439,585	7450.59	4145.60	55.64
	Intermediate	40	220,055	5501.38	2343.32	42.60
	Rural	90	573,659	6373.99	3651.28	57.28

Table 24. Spain Wave 1 inflation weights: summary statistics.

Region		N	Sum	Mean	SD	CV
Galicia/Asturias/ Cantabria	Urban	40	560,405	14010.12	6740.35	48.11
	Intermediate	40	323,241	8081.03	3386.17	41.90
	Rural	30	372,296	12409.87	6325.76	50.97
Pais Vasco/Rioja/ Aragon	Urban	51	362,551	7108.84	3309.10	46.55
	Intermediate	30	178,905	5963.50	2078.56	34.85
	Rural	19	275,531	14501.63	6948.82	47.92
Madrid/Leon/La Mancha/ Extremadura	Urban	160	1,829,240	11432.75	4960.97	43.39
	Intermediate	60	421,696	7028.27	4243.97	60.38
	Rural	50	898,850	17977.00	11392.04	63.37
Valencia/Baleares	Urban	60	545,062	9084.37	4592.59	50.55
	Intermediate	60	622,008	10366.80	3414.61	32.94
Cataluna/Valencia	Rural	20	339,591	16979.55	3857.49	22.72
	Urban	110	833,178	7574.35	2862.50	37.79
Rest of Cataluna	Intermediate	50	382,029	7640.58	3163.80	41.41
	Urban	111	1,091,196	9830.59	4628.63	47.08
	Intermediate	80	541,425	6767.81	3206.79	47.38
Andalucia/Murcia	Rural	30	872,486	29082.87	11734.24	40.35

## D Field materials

Every *Interviewer* going into the field should have the following: *Field preparatory materials*:

- Interviewer's tablets (using NFIELD software in each country)
- ID card
- Survey manual and maps of the sampling points were loaded on the tablet
- Incentives

Every *Supervisor* had the following field materials:

- Maps of selected survey areas, where possible.
- Additional interviewing tablet

## E Survey information letter and consent

The following are the scripts used for both the information letter and consent:

### **Selected Respondent Information Letter:**

**Research Project: International Tobacco Control 6 European Country Project (ITC 6E Project)**

**Human Research Ethics Committee, University of Waterloo: ORE # 21262, IRBs**

### **What is this research about?**

The International Tobacco Control (ITC) Project 6-European Country Study is a project under the European Regulatory Science on Tobacco: Policy implementation to reduce lung diseases (EUREST-PLUS). The objectives of EUREST-PLUS are to monitor and evaluate the impact of the tobacco control policies within the Tobacco Products Directive (TPD), the newly adopted legislation in the EU, and assess these within the context of the WHO Framework Convention on Tobacco Control (FCTC) ratification at a European level. The primary objective of the project is to evaluate the psychosocial and behavioural impact of the TPD. The aims of this research are to find out:

1. The impact of specific tobacco control policies within the TPD on residents of six European countries (Germany, Greece, Hungary, Poland, Romania, and Spain),
2. The prevalence and patterns of tobacco use behaviour within these countries,

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3. The tobacco use behaviour and the impact of tobacco control policies between these countries and other countries within the ITC Project.

### **Who is conducting this research?**

The ITC 6E Project is led and coordinated by the ITC Project at the University of Waterloo (UW) in Canada in collaboration with European Network of Smoking and Tobacco Prevention (Belgium) and research partners from the 6 project countries. The overall international project is being led by Professor Geoffrey T. Fong from the University of Waterloo, Canada, in collaboration with Dr. Ute Mons, German Cancer Research Center; Prof. Yiannis Tountas, University of Athens; Prof. Witold Zatonski, Poland Health Promotion Foundation; Dr. Krzysztof Przewozniak, Poland Health Promotion Foundation; Prof. Antigona Trofor, Aer Pur Romania; Prof. Esteve Fernandez, Institut Català d'Oncologia; Dr. Tibor Demjén, Smoking or Health Hungarian Foundation; Prof. Aristidis Tsatsakis, University of Crete; and Mr. Nicolas Bécuwe, Kantar Public Brussels.

### **What are we asking of you?**

This research involves completing the survey interview (approximately 35 minutes) today. We plan to return approximately every 18 months to do follow-up surveys because we are interested in how people's opinions and behaviours might change over time.

### **Survey Participation**

If you agree to participate in this research, first we will need to ask you a few essential questions for statistical purposes and to determine whether you are eligible. If you are not eligible, or if you do not answer these essential questions, we will not proceed further with the interview. If you are eligible, we will proceed with the interview, which will take about 35 minutes.

Participation is voluntary, and you may skip any non-essential questions if you wish. You may stop and start again if you cannot complete the survey all at one time. Once we are finished, a token of appreciation will be provided for your participation.

### **Risk**

Participants will not face any risk or harm to their well-being either physically, psychologically, socially or culturally throughout completion of the survey.

### **Possible Benefits**

This study will help the researchers to evaluate and understand the effects of national-level tobacco control policies in European Union Member States. Also policy makers throughout the world will be able to use this evidence to create and implement tobacco control policies for demonstrated effectiveness.

### **Confidentiality and Security of Data**

All the information you provide is treated as strictly confidential. Data from this research will not be destroyed, but any identifying information about you such as name and address will be removed so that your answers cannot be linked back to you.

The data will be held in secure electronic files at the survey firm TNS Opinion (Belgium) and at the University of Waterloo (Canada) on computers that have security certificates, are password protected, and can only be accessed by the research team. Eventually, after two years, the data without names or personal information may be shared with other health researchers.

If you wish to discuss any questions or concerns about this research project, please contact:

**Dr. Constantine Vardavas, Principal Investigator, EUREST-PLUS, European Network on Smoking and Tobacco Prevention. Tel: \*\*\*\*\*.**

**OR**

**Dr. Geoffrey T. Fong, Principal Investigator, ITC Project, Department of Psychology, University of Waterloo, Canada. Tel: +1 519 888 4567 ext. 35811.**

If you wish to lodge a complaint concerning the manner in which this research is being conducted, please contact:

[ethics contact]

If you feel that the local ethics committee has not resolved your concerns to your satisfaction, you may wish to contact the Human Research Ethics Committee in Canada that is overseeing the project:

**Office of Research Ethics, University of Waterloo, 200 University Avenue West, Waterloo, Ontario, Canada N2L 3G1, Tel: + 1 519 888 4567 ext. 36005**

**BI49260**

**Ask all.**

Thank you. This is a comprehensive survey of smokers in this and other European Union member countries that has to do with beliefs, attitudes, knowledge, and behavior about tobacco use. It is being carried out by researchers from the EU and an international group.

This project is funded by an ongoing grant from the EU Horizon 2020. A major goal of the survey is to examine how smokers in this country differ or are the same in their views towards smoking.

We will talk to you for about 35 minutes, depending on your answers, and we think you will find the questions quite interesting. In addition, we will provide a token of appreciation for your involvement in this survey.

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All personal information you provide is treated as strictly confidential, subject to legal requirements and limitations. It will be held in secure storage and password protected at TNS Opinion, Belgium and the University of Waterloo, Canada and only be accessed by this research team. Any identifying information about you will be removed before the data are securely stored, so that your answers cannot be linked back to you. After two years, the survey data, but not your name or other identifying information, will be shared with authorized researchers in other countries, as it will be used to make comparisons of smoking behaviour and attitudes across countries.

### **BI49235**

#### **Ask all.**

Would you be willing to answer the 35-minute survey today and then again in 12-18 months for a second token of our appreciation?

1 Yes

2 No

3 Time is not convenient

*See HelpScreens for answers to any questions about follow-up surveys and contacts.*

**If response=1, go to FR225.**

**If response=2, go to BI439.**

**If response=3, make appointment and terminate.**

### **BI49439**

#### **Ask if BI235=2.**

We understand how you feel. We really appreciate your participation. The difference between this and most other surveys is that this is an EU and international research project and we are talking to the same people a number of times to better understand what affects their opinions and smoking behaviour. This is why your participation is so important to us.

Can we just start with a few questions and see how it goes? (If hesitates, say) Or would another time be better?

1 Yes

2 No

3 Another time would be better

**If response=1, go to FR225.**

**If response=2, go to BI901. (enter Indivdisp)**

**If response=3, make appointment and end interview.**

## **F Final outcomes rates**

Table 25. Final outcome rates

	Germany	Greece	Hungary	Poland	Romania	Spain
1. Number of addresses approached/attempted	10325	3537	2754	3421	4490	4114
2. Number of addresses where contact has been made	8259	2856	2404	3028	2778	3853
3. Number of contacted addresses with eligibility determined	3086	1295	1791	2154	2065	2451
4. Number of contacted addresses with no eligible respondents	1982	466	972	1163	1134	1509
5. Number of contacted addresses with eligible respondents	1104	829	819	991	931	942
6. Number of addresses with eligible respondents, members selected	1085	823	809	976	911	936
7. Eligibility rate for households, given determination (5./3.)	0.358	0.640	0.457	0.460	0.451	0.384
8. Estimated eligible households among attempted (7.*1.)	3694	2264	1259	1574	2024	1581
9. Number of individuals selected for interview	1425	1116	1078	1265	1254	1234
10. Number of individual refusals or break offs	200	91	64	227	232	219
11. Number of completed interviews	1003	1000	1000	1006	1003	1001
Household contact rate (2./1.)	0.800	0.807	0.873	0.885	0.619	0.937
Household cooperation rate, given eligible (6./5.)	0.983	0.993	0.988	0.985	0.979	0.994
Household response rate (6./8.)	0.294	0.363	0.642	0.620	0.450	0.592
Individual cooperation rate (11./(11.+10.))	0.834	0.917	0.940	0.816	0.812	0.820
Individual response rate, given selection (11./9.)	0.704	0.896	0.928	0.795	0.800	0.811

## G Country profiles

### GERMANY

Germany has an estimated population of 82 million, 75% of whom live in urban areas. In 2014, GDP per capita was US \$42,000, making it the fourth largest economy in the world (nominally). Tobacco consumption leads to more than 128,000 deaths each year.

According to the WHO Report on the Global Tobacco Epidemic, 2015, the percentage of current tobacco smokers across both sexes was 24.5% with women smoking at a rate of approximately 20.3%, and men smoking at a rate of 29.0%. In terms of daily users, the rate drops to 20.9% total (17.1% Women and 25.1% Men). For youth aged 12-17, the total smoking rate is 12%; however, unlike adults, young girls have the higher smoking rate over their male counterparts with smoking rates of 12.6% and 11.5% respectively. The use of smokeless forms of tobacco in Germany are very small, with approximately 2% of all adults using smokeless tobacco.

As of December 2014, total government expenditure on tobacco control activities was approximately 4.5 million euros annually.

**Price of Tobacco.** Cigarette prices in Germany are in the middle range of costs across Europe. As of March 2015, the average price per pack of 20 cigarettes was 5.96 euros. Excise taxes on cigarettes meet the recommended percentage of at least 70% excise tax of the retail price set out by the WHO with a 72.9% excise tax in place since 2012.

**Smoke-free.** As of 2007, Germany passed a comprehensive public smoke-free law. A smoking ban in restaurants, bars, and pubs was brought into force in August 2007, however German courts overturned the ban in one-room bars and restaurants. State authorities may pass more stringent smoke-free laws than those passed by the federal government. As such, regional governments in Bavaria, Saarland, and North Rhine-Westphalia have all introduced stricter smoke-free legislation such as the elimination of designated smoking rooms, or full bans on smoking in public places. Currently smoking is restricted in indoor workplaces and public spaces nationwide. Smoking is also prohibited on all forms of transportation unless 'physically separate units' exist for tobacco users. This means smoking is banned in forms of transportation such as streetcars or trolleys, buses, and taxis.

**Tobacco Advertising, Promotion, and Sponsorship.** Germany adopted its first advertising and promotion ban of smoked tobacco in 1974 when it passed a comprehensive ban on advertising on both television and radio. A comprehensive advertising ban was later adopted in 1991. Point of sale advertising and promotion is still allowed in Germany. In 2010, a ban on all forms of promotional discounts was passed.

**Tobacco Packaging and Labelling.** Prior to the European Commission Tobacco Products Directive (TPD), 2014, smoked tobacco products only required one of two text warnings

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occupying 30% of the front of the package, as well as an additional text message (one of fourteen authorized messages) on the back of the package occupying 40% of the space. Under the new TPD, Germany must now feature one of 14 combined (graphic) health warnings occupying at least 65% of both the front and back surfaces.

**FCTC Status.** Germany became a party of the FCTC on October 24, 2003 and ratified the Agreement on December 16, 2004.

### GREECE

Greece has an estimated population of 11 million, approximately 78% of whom live in urban areas. As of 2015, GDP per capita was US \$26,000, making it the 46th largest economy in the world (nominally).

According to the WHO Report on the Global Tobacco Epidemic, 2015, the percentage of current tobacco smokers across both sexes was 38.2% with women smoking at a rate of approximately 25.7%, and men smoking at a rate of 51.2%. In terms of daily users, the rate drops to 36.6% total (23.9% Women and 49.7% Men). For youth aged 12-17, the total smoking rate is 16.4% (13.3% female and 19.3% male). The use of smokeless forms of tobacco in Greece is very small, with approximately 0.2% of all adults using smokeless tobacco.

**Price of Tobacco.** Cigarette prices in Greece are low when compared to the rest of Europe. As of March 2015, the average price per pack of 20 cigarettes was 4.36 euros. Excise taxes on cigarettes meet the recommended percentage of at least 70% excise tax of the retail price set out by the WHO with a 79.95% excise tax in place since 2014.

**Smoke-free.** As of July 1, 2009 Greece has banned smoking in all healthcare facilities, food preparation areas, and entertainment venues, as well as public or private working areas, and any enclosed waiting area, airport, or transportation station. While such legislation exists, Greece has not enforced such bans effectively, especially in restaurants, cafes, and bars. As such, few restaurants or cafes comply with the legislation.

**Tobacco Advertising, Promotion, and Sponsorship.** Greece has had a comprehensive ban on all tobacco advertising and promotion since July 2005. As such, all forms of tobacco advertising on television and radio, as well as any domestic print media and outdoor advertising such as billboards are prohibited. Any free distribution of tobacco products is also banned, while promotional discount prices are still allowed.

**Tobacco Packaging and Labelling.** Prior to the European Commission Tobacco Products Directive (TPD), 2014, smoked tobacco products only required text warnings occupying 30% of the primary surface area of the pack. The law required that the back surface of the tobacco package have a warning that covered at least 40% of that surface. Under the new TPD, Greece must now feature one of 14 combined (graphic) health warnings occupying at least 65% of both the front and back surfaces.

**FCTC Status.** Greece became a party of the FCTC on June 16, 2003 and ratified the Agreement on January 27, 2006.

## HUNGARY

Hungary has an estimated population of 9.8 million, approximately 71% of whom live in urban areas. As of 2016, GDP per capita was US \$26,941, making it the 58th largest economy in the world (nominally).

According to the latest WHO FCTC Report (2016), the percentage of current tobacco smokers across both sexes was 27.5% with women smoking at a rate of approximately 22.2%, and men smoking at a rate of 33.4%. In terms of daily users, the rate drops to 25.8% total (20.8% Women and 31.5% Men). For youth aged 13-15, the total smoking rate is 30.5% (28.0% female and 33.0% male).

**Price of Tobacco.** Cigarette prices in Hungary are low when compared to the rest of Europe. As of March 2015, the average price per pack of 20 cigarettes was 3.84 euros. Excise taxes on cigarettes meet the recommended percentage of at least 70% excise tax of the retail price set out by the WHO with a 77.26% excise tax in 2014.

**Smoke-free.** As of 1999, Hungary has had a comprehensive smoking ban in locations such as: medical institutions, pharmacies, childcare facilities, educational facilities, social institutions, sports facilities, government facilities, hospitality establishments, and workplaces. Under the same law, private establishments could allow smoking under particular circumstances. An amendment to Act XLII of 1999 on the Protection of Non-Smokers and Certain Regulations on the Consumption and Distribution of Tobacco Products was passed by the Hungarian Parliament on 26 April 2011. According to the amendment, by 1 January 2012 smoking is prohibited on all public transportation and in all enclosed public places, including workplaces, bars and restaurants. Smoking is also banned in public education, childcare and health-care institutions; designated areas for smokers will be forbidden both indoors and outdoors at these facilities..

**Tobacco Advertising, Promotion, and Sponsorship.** Hungary has had a comprehensive ban on all tobacco advertising and promotion since September 2008 (both direct and indirect). Hungary has also banned tobacco company sponsorship in all forms, as well as any use of promotional free-samples of tobacco products. Promotional discounts, as well as advertising at the point-of-sale, are still permitted.

**Tobacco Packaging and Labelling.** Prior to the European Commission Tobacco Products Directive (TPD), 2014, smoked tobacco products required graphic warnings on all tobacco products. Warnings needed to cover 30% of the front and 40% of the back surface areas of all tobacco packages. According to the TPD for 14 text warnings, there are 42 pictures (3 pictures per text). Each year a new picture accompanies the text warnings.

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From 20 August 2016, Hungary requires cigarette packages to carry pictorial health warnings of 65% of the front and back of packages. All packs with smaller pictorial warnings will need to be sold out by 20 May 2017.

**FCTC Status.** Hungary became a party of the FCTC on June 16, 2003 and ratified the Agreement on April 7, 2004.

### POLAND

Poland has an estimated population of 38.2 million, approximately 60% of whom live in urban areas. As of 2015, GDP per capita was US \$26,500, and represents the 24th largest economy in the world according to the World Bank.

According to the WHO Report on the Global Tobacco Epidemic, 2015, the percentage of current cigarette smokers across both sexes was 26.0% with women smoking at a rate of approximately 23.0%, and men smoking at a rate of 30.0%. In terms of daily users, the rate drops to 22.0% total (18.0% Women and 27.0% Men). For youth, 12.1% of young females and 15.7% of young males smoke respectively. The use of smokeless forms of tobacco in Poland is very small, with approximately 0.5% of all adults using smokeless tobacco.

**Price of Tobacco.** Cigarette prices in Poland are low when compared to the rest of Europe. As of March 2015, the average price per pack of 20 cigarettes was 3.84 euros. Excise taxes on cigarettes meet the recommended percentage of at least 70% excise tax of the retail price set out by the WHO with a 80.3% excise tax in place as of 2014.

**Smoke-free.** As of April 30, 1996, Poland has had a comprehensive ban on smoking in any premise designated for public use. This includes public transportation and transportation establishments, sporting establishments and public playgrounds for children, workplaces, and public cultural, recreational, food, and entertainment establishments.

**Tobacco Advertising, Promotion, and Sponsorship.** Poland has had a comprehensive ban on all tobacco advertising and promotion since April 30, 1996. As such, all forms of tobacco advertising on television and radio, as well as any domestic print media and outdoor advertising such as billboards are prohibited. This includes a ban on advertising at the point-of-sale, though compliance with this particular area is low according to the WHO. Any form of promotional discount, free-sample, or sponsorship of an event is also banned.

**Tobacco Packaging and Labelling.** Prior to the European Commission Tobacco Products Directive (TPD), 2014, smoked tobacco products only required text warnings occupying 35% of the primary surface area of the pack (30% of the front and 40% of the back). Under the new TPD, Poland must now feature one of 14 combined (graphic) health warnings occupying at least 65% of both the front and back surfaces.

**FCTC Status.** Poland became a party of the FCTC on June 14, 2004 and ratified the Agreement on September 15, 2006.

## ROMANIA

Romania has an estimated population of 21.6 million, approximately 54.6% of whom live in urban areas. As of 2015, GDP per capita was US \$20,800 in Romania, and represents the 51st largest economy in the world according to the World Bank.

According to the WHO Report on the Global Tobacco Epidemic, 2015, the percentage of current cigarette smokers across both sexes was 26.7% with women smoking at a rate of approximately 16.7%, and men smoking at a rate of 37.4%. In terms of daily users, the rate drops to 24.3% total (14.5% Women and 34.9% Men). For youth aged 13-15 the total smoking rate is 11.2%, 10.1% of young females and 12.2% of young males smoking respectively.

**Price of Tobacco.** Cigarette prices in Romania are low when compared to the rest of Europe. As of July 2014, the lowest price per pack of 20 cigarettes was 2.80 euros and the highest price was 3.26 euros inclusive of taxes. Excise taxes on cigarettes meet the recommended percentage of at least 70% excise tax of the retail price set out by the WHO with a 75.4% excise tax in place as of December 2014.

**Smoke-free.** As of 2002, Romania has had a complete ban on smoking in all enclosed places, including workplaces, public transportation, children's playgrounds, health care facilities, and educational facilities. Smoking is also banned in all restaurants, bars, cafes, and night-clubs.

**Tobacco Advertising, Promotion, and Sponsorship.** Romania has had a comprehensive ban on all tobacco advertising since January 31, 2008. As such, all forms of tobacco advertising on television and radio, as well as print media and outdoor advertising such as billboards are prohibited. Free or paid distribution of tobacco or related products, products that have an evident likeness to tobacco products, and any products used to promote smoking to minors are also banned. As of 2014, promotional discounts on tobacco products were still permitted in Romania.

**Tobacco Packaging and Labelling.** Graphic health warnings have been required in Romania since 2002. As of 2014, warnings were required to meet a minimum of 35% of the principal display areas (30% on the front and 40% on the back). With the implementation of the European Commission Tobacco Products Directive (TPD), 2014, Romania must now feature one of 14 combined (graphic) health warnings occupying at least 65% of both the front and back surfaces.

**FCTC Status.** Romania became a party of the FCTC on June 25, 2004 and ratified the Agreement on January 27, 2006.

## SPAIN

Spain has an estimated population of 47 million, approximately 79.6% of whom live in urban areas. As of 2015, GDP per capita was US \$28,520 in Spain, and represents the 14th largest economy in the world according to the World Bank.

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According to the WHO Report on the Global Tobacco Epidemic, 2015, the percentage of current cigarette smokers across both sexes was 27.0% with women smoking at a rate of approximately 22.8%, and men smoking at a rate of 31.4%. In terms of daily users, the rate drops to 24.0% total (20.2% Women and 27.9% Men). For youth aged 14-18 the total smoking rate is actually higher than that of adults. As of 31 December 2014, the smoking rate among youth was 32.4%, 36.4% of young females and 28.1% of young males smoking respectively.

**Price of Tobacco.** Cigarette prices in Spain are in the middle when compared to the rest of Europe. As of March 2015, the average price per pack of 20 cigarettes was 5.29 euros inclusive of taxes. Excise taxes on cigarettes meet the recommended percentage of at least 70% excise tax of the retail price set out by the WHO with a 78.09% excise tax in place as of 31 July 2014.

**Smoke-free.** As of January 1, 2006, Spain has had a ban on smoking spaces such as health, teaching, sports, shopping, social, recreational, and entertainment establishments, as well as workplaces, dance halls, gaming, food, and cultural centres. Under this law, smoking rooms are allowed to exist in hospitality establishments (up to 30% of the establishment). All public administrative and law entities are to be smoke free, as are public transportation premises and vehicles, taxis and ambulances. Spain has a strong record of compliance with its smoke-free laws.

**Tobacco Advertising, Promotion, and Sponsorship.** As of 2003, Spain has banned all advertising from television and radio broadcasting, and all printed mediums (with the exception of tobacco trade publications). Spain has also banned smoking or the mentioning of smoking related brands or activities from all domestic media. Spain has prohibited any promotional activities such as discounts, free distribution, or sponsorships. As of January 2<sup>nd</sup> 2011, the smoke-free legislation was improved with the prohibition of smoking in all hospitality venues with no exceptions as well as at the outdoors of campuses of educational institutions and healthcare centres.

**Tobacco Packaging and Labelling.** Spain mandated graphic health warnings as of May 27, 2010. As of 2014, warnings were required to meet a minimum of 35% of the principal display areas (30% on the front and 40% on the back). With the implementation of the European Commission Tobacco Products Directive (TPD), 2014, Spain must now feature one of 14 combined (graphic) health warnings occupying at least 65% of both the front and back surfaces.

**FCTC Status.** Spain became a party of the FCTC on June 16, 2003 and ratified the Agreement on January 11, 2005.